Appendix H: RFLMA Contact Records

Summary of RFLMA Contact Records

This section provides a summary of the status of activities addressed by RFLMA contact records issued during 2007.

RFLMA references the use of contact records to document CDPHE oral approvals of field modifications to implement approved response actions (see RFLMA paragraph 34). RFLMA Attachment 2 also references the use of contact records to document the outcome of consultation related to addressing any reportable conditions (see RFLMA Attachment 2, Section 6.0). Finally, the Rocky Flats Site Legacy Management Public Involvement Plan (PIP), RFLMA Appendix 2, also provides that a contact record of consultative process discussions between the RFLMA Parties will be made available to the Rocky Flats Stewardship Council and other interested stakeholders as early in the process as is practicable following signature approval by the parties. The PIP process to make contact records available is implemented by posting contact records on the Rocky Flats public website, and providing timely notice to stakeholders that the contact record is posted by an e-mail message.

The RFLMA Parties agreed, as documented in RFLMA Contact Record 2007-08, that the status of actions or activities in RFLMA contact records will be documented by DOE from time to time, and included in RFLMA quarterly and/or annual surveillance and maintenance reports for tracking purposes. The RFLMA Parties also agreed that to facilitate the status reporting contact records should include a short discussion of the anticipated actions or activities to close out the RFLMA contact record. Thus, contact record 2007-08 and subsequent contact records will include the close out discussion.

Table H−1 lists the RFLMA contact records issued in 2007 and their status as of December 31, 2007. Because the status of RFLMA contact records issued in 2006 has not previously been reported, these are also included in Table H−1.

Table H−1. RFLMA Contact Records Issued in 2007

Contact Record #	Purpose	Date Posted on Rocky Flats LM Website	Status as of December 31, 2007
2006-01	Disposition December 2005 - May 2006 monitoring results for manganese at the Present Landfill Treatment System (PLFTS)	3/15/2007	Actions completed—closed
2006-02	Disposition December-July 2006 monitoring results for boron at the Present Landfill Treatment System (PLFTS)	3/15/2007	Actions completed—closed
2006-03	Disposition February-July 2006 monitoring results for arsenic at the Present Landfill Treatment System (PLFTS)	3/15/2007	Actions completed—closed
2007-01	Notification of Adverse Biological Condition, March 27, 2007, Central Operable Unit (COE) Boundary Fence Wildlife Deaths	4/11/2007	Actions completed—closed
2007-02	Discussion and Approval of Exploratory Excavations to Greater Than 3 Feet Below Grade Around the Former Interceptor Trench Pump House	6/7/2007	Actions completed—closed
2007-03	Discussion and Approval of Excavation Greater Than 3 Feet Below Grade in FC-1 Soil Borrow Area and Placement of Soil South of Former Building 371 to Eliminate Ponding Around Well Heads	6/7/2007	Actions completed—closed
2007-04	Discussion and approval of soil disturbance for Phase III road improvement work involving the construction of roadside drainage ditches that will not return excavation to preexisting grade	8/17/2007	Actions completed—closed
2007-05	Grading of the Slump Area South of FC-4 and former B991	10/1/2007	Actions completed—closed
2007-06	Evaluation of Elevated Nitrate in Ground Water Samples from AOC Well B206989	10/16/2007	Continuing monitoring and evaluation
2007-07	Replacement of Monitoring Well 45605 (B991 Slump)	12/10/2007	Open
2007-08	Changes to Present Landfill Inspection and Monitoring Frequencies and Modification of the PLF Monitoring and Maintenance Plan	12/26/07	Open

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Disposition December 2005 - May 2006 monitoring results for manganese at the Present Landfill Treatment System (PLFTS)

Contact Record Approval Date: March 13, 2007

Site Contact(s) / Affiliation(s):

Scott Surovchak / DOE, Doug Hansen / S.M. Stoller, George Squibb / S.M. Stoller, John Boylan / S.M. Stoller, Linda Kaiser / S.M. Stoller

Regulatory Contact(s) / Affiliation(s):

Mark Aguilar / EPA, Larry Kimmel / EPA, Carl Spreng / CDPHE

Discussion:

As part of Present Landfill closure, a passive seep interception and treatment system has been installed to treat volatile organic compounds (VOCs) in landfill seep water and ground water intercept system (GWIS) water. There are three sources of influent to the treatment system: two GWIS pipes, and the Present Landfill seep. Effluent from the treatment system eventually flows to the Landfill Pond.

As required by the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan* and detailed in the 2006 Integrated Monitoring Plan (to be superseded under the Rocky Flats Legacy Management Agreement [RFLMA] by the Rocky Flats Site Operations Guide [RFSOG]), treatment system effluent monitoring requirements consist of routine quarterly sampling for VOCs, metals, and other analytes to evaluate remedy performance. A validated exceedance of a surface-water standard at the treatment system effluent triggers monthly effluent sampling for three consecutive months. Continued exceedances during the 3-month period triggers sampling of the Landfill Pond for those constituents in question. Continued exceedances also trigger consultation between the parties to determine whether a change in the remedy is required, additional parameters need to be analyzed, or a modification of the monitoring plan is warranted. If surface water standards are exceeded in the Landfill Pond, the parties consult to determine if further monitoring modifications are warranted and if Landfill Pond operations should be addressed.

The routine quarterly effluent sample collected on 12/28/05 (Table 1) showed a manganese concentration exceeding the applicable Rocky Flats Cleanup Agreement (RFCA) standard of 1,858 ug/L. Subsequent sampling on a monthly frequency (Table 1) also showed manganese concentrations exceeding the RFCA standard, triggering sampling of the Landfill Pond (Table 2) and consultation.

Formal consultation regarding this issue took place in June 2006.

Table 1. Present Landfill Treatment System Effluent (PLFSYSEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard
Manganese, total	***12/28/05***	***6,100***	***µg/L***	***1,858***
	2/23/06	5,650	µg/L	1,858
	3/20/06	5,430	µg/L	1,858
	4/19/06	*5,310*	*µg/L*	*1,858*
	5/23/06	7,000	ug/L	1,858

Notes: The initial result triggering monthly sampling is shown in **bold**. The routine quarterly samples are shown in italics.

Table 2. Present Landfill Pond (PLFPONDEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard
Manganese, total	5/23/06	24	µg/L	1,858

Notes: The 4/19/06 PLFSYSEFF result (Table 1) was received on 5/23/06, triggering pond sampling.

Resolution:

The manganese sample collected from the Landfill Pond (Table 2) was below the RFCA standard, and no action concerning Landfill Pond operations is warranted at this time. The parties also recognize that the PLFTS is designed to treat VOCs, not metals such as manganese. Routine quarterly sampling at the PLFTS with regard to manganese will continue as currently implemented and based on this consultation. The parties will continue to be consulted regarding the quarterly manganese sampling results at the PLFTS effluent, with the intention that implementation of monthly or supplemental PLFTS effluent manganese sampling be based on those future consultations. To aid future consultations, samples for manganese only will be collected from the Landfill Pond in conjunction with the routine quarterly PLFTS effluent samples. The parties agree to evaluate Landfill Pond operations should manganese concentrations in the Landfill Pond exceed the applicable surface water standard. Contact records for future consultations regarding manganese at the PLFTS and Landfill Pond will be generated as required.

Contact Record Prepared by: George Squibb

Distribution:

Mark Aguilar, EPA
Larry Kimmel, EPA
Carl Spreng, CDPHE
Dave Kruchek, CDPHE
John Rampe, DOE
Scott Surovchak, DOE
John Boylan, Stoller
George Squibb, Stoller
Linda Kaiser, Stoller
Anna Montoya, Stoller

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Disposition December-July 2006 monitoring results for boron at the Present Landfill Treatment System (PLFTS)

Contact Record Approval Date: March 13, 2007

Site Contact(s) / Affiliation(s):

Scott Surovchak / DOE, Doug Hansen / S.M. Stoller, George Squibb / S.M. Stoller, John Boylan / S.M. Stoller, Linda Kaiser / S.M. Stoller

Regulatory Contact(s) / Affiliation(s):

Mark Aguilar / EPA, Larry Kimmel / EPA, Carl Spreng / CDPHE

Discussion:

As part of Present Landfill closure, a passive seep interception and treatment system has been installed to treat volatile organic compounds (VOCs) in landfill seep water and ground water intercept system (GWIS) water. There are three sources of influent to the treatment system: two GWIS pipes, and the Present Landfill seep. Effluent from the treatment system eventually flows to the Landfill Pond.

As required by the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan* and detailed in the 2006 Integrated Monitoring Plan (to be superseded under the Rocky Flats Legacy Management Agreement [RFLMA] by the Rocky Flats Site Operations Guide [RFSOG]), treatment system effluent monitoring requirements consist of routine quarterly sampling for VOCs, metals, and other analytes to evaluate remedy performance. A validated exceedance of a surface-water standard at the treatment system effluent triggers monthly effluent sampling for three consecutive months. Continued exceedances during the 3-month period triggers sampling of the Landfill Pond for those constituents in question. Continued exceedances also trigger consultation between the parties to determine whether a change in the remedy is required, additional parameters need to be analyzed, or a modification of the monitoring plan is warranted. If surface water standards are exceeded in the Landfill Pond, the parties consult to determine if further monitoring modifications are warranted and if Landfill Pond operations should be addressed.

The routine quarterly effluent sample collected on 12/28/05 (Table 1) showed a boron concentration exceeding the applicable Rocky Flats Cleanup Agreement (RFCA) standard of 750 ug/L. Subsequent sampling on a monthly frequency (Table 1) also showed boron concentrations exceeding the RFCA standard, triggering sampling of the Landfill Pond (Table 2) and consultation.

Formal consultation regarding this issue took place on November 8, 2006.

Table 1. Present Landfill Treatment System Effluent (PLFSYSEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard
Boron, total	***12/28/05***	***2100***	***µg/L***	***750***
	2/23/06	*1930*	*µg/L*	*750*
	3/20/06	1600	µg/L	750
	4/19/06	*1350*	*µg/L*	*750*
	5/23/06	1600	µg/L	750
	7/25/06	*1230*	*ug/L*	*750*

Notes: The initial result triggering monthly sampling is shown in **bold**. The routine quarterly samples are shown in italics.

Table 2. Present Landfill Pond (PLFPONDEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard
Boron, total	5/23/06	1200	µg/L	750
	7/25/06	1290	µg/L	750

Notes: The 4/19/06 PLFSYSEFF result (Table 1) was received on 5/23/06, triggering pond sampling.

Resolution:

The surface water standard for boron in RFCA is 750 µg/L (total), which is derived from the Colorado Water Quality Control Commission's (WQCC) Regulation No. 38 for Segments 4a, 4b, and 5 of Big Dry Creek Basin. Footnote *g* of Table 4 in the Basic Standards for Groundwater (WQCC Regulation No. 41) explains that this value is based on an agricultural use specifically to protect fruit and nut trees. The parties recognize that Rocky Flats Site (RFS) water is not used to irrigate fruit and nut trees. Agricultural and drinking water uses of surface water, and the drilling of groundwater wells for such uses, are prohibited by the Corrective Action Decision / Record of Decision, the forthcoming RFLMA, and the Environmental Covenant for the Central Operable Unit. The parties also recognize that the PLFTS is designed to treat VOCs, not metals such as boron. The parties have agreed to petition the WQCC for a change in the boron standard for Segments 4a, 4b, and 5 to reflect the use status of RFS surface waters. Routine quarterly sampling at the PLFTS with regard to boron will continue as currently implemented based on this consultation. The parties will continue to be consulted regarding the quarterly boron sampling results, with the intention that implementation of monthly or supplemental boron sampling be based on those future consultations. Contact records for future consultations regarding boron at the PLFTS, up to and including the outcome of the WQCC petition, will be generated as required.

Contact Record Prepared by: George Squibb

Distribution:

Mark Aguilar, EPA
Larry Kimmel, EPA
Carl Spreng, CDPHE
Dave Kruchek, CDPHE
John Rampe, DOE
Scott Surovchak, DOE
John Boylan, Stoller
George Squibb, Stoller
Linda Kaiser, Stoller
Anna Montoya, Stoller

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Disposition February-July 2006 monitoring results for arsenic at the Present Landfill Treatment System (PLFTS)

Contact Record Approval Date: March 13, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak / DOE, Doug Hansen / S.M. Stoller, George Squibb / S.M. Stoller, John Boylan / S.M. Stoller, Linda Kaiser / S.M. Stoller

Regulatory Contact(s) / Affiliation(s):
Mark Aguilar / EPA, Larry Kimmel / EPA, Carl Spreng / CDPHE

Discussion:

As part of Present Landfill closure, a passive seep interception and treatment system has been installed to treat volatile organic compounds (VOCs) in landfill seep water and ground water intercept system (GWIS) water. There are three sources of influent to the treatment system: two GWIS pipes, and the Present Landfill seep. Effluent from the treatment system eventually flows to the Landfill Pond.

As required by the *Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan* and detailed in the 2006 Integrated Monitoring Plan (to be superseded under the Rocky Flats Legacy Management Agreement [RFLMA] by the Rocky Flats Site Operations Guide [RFSOG]), treatment system effluent monitoring requirements consist of routine quarterly sampling for VOCs, metals, and other analytes to evaluate remedy performance. A validated exceedance of a surface-water standard at the treatment system effluent triggers monthly effluent sampling for three consecutive months. Continued exceedances during the 3-month period triggers sampling of the Landfill Pond for those constituents in question. Continued exceedances also trigger consultation between the parties to determine whether a change in the remedy is required, additional parameters need to be analyzed, or a modification of the monitoring plan is warranted. If surface water standards are exceeded in the Landfill Pond, the parties consult to determine if further monitoring modifications are warranted and if Landfill Pond operations should be addressed.

The routine quarterly effluent sample collected on 2/26/06 (Table 1) showed an arsenic concentration exceeding the applicable Rocky Flats Cleanup Agreement (RFCA) standard of 0.018 ug/L. Subsequent sampling on a monthly frequency (Table 1) also showed arsenic concentrations exceeding the RFCA standard, triggering sampling of the Landfill Pond (Table 2) and consultation.

Formal consultation regarding this issue took place on November 8, 2006.

Table 1. Present Landfill Treatment System Effluent (PLFSYSEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard[1]
Arsenic, total	***2/23/06***	***18.1***	***µg/L***	***0.018***
	4/19/06	*21.2*	*µg/L*	*0.018*
	5/23/06	7.3	µg/L	0.018
	6/28/06	5.3	µg/L	0.018
	7/25/06	*22.4*	*ug/L*	*0.018*

Notes: The initial result triggering monthly sampling is shown in **bold**. The routine quarterly samples are shown in italics.
[1] The Site analyzes for total As and conservatively compares to the **total recoverable** RFCA standard.

Table 2. Present Landfill Pond (PLFPONDEFF): Summary of Analytical Results

Analyte	Sample Date	Result	Units	RFCA Standard
Arsenic, total	7/31/06	7.2	µg/L	0.018

Notes: The 6/28/06 PLFSYSEFF result (Table 1) was received on 7/31/06, triggering pond sampling.

Resolution:

With the implementation of RFLMA (see RFLMA Attachment 2, Table 1), the applicable surface-water standard for arsenic will be 50 ug/L (total recoverable; based on the CDPHE Water Quality Control Commission Regulation No. 38 for Segments 4a, 4b, and 5 of Big Dry Creek). The parties recognize that past arsenic concentrations at the PLFTS are below the forthcoming RFLMA standard, and no action is warranted. The parties also recognize that the PLFTS is designed to treat VOCs, not metals such as arsenic. Monitoring at the PLFTS with regard to arsenic will continue as currently implemented based on this consultation.

Contact Record Prepared by: George Squibb

Distribution:

Mark Aguilar, EPA
Larry Kimmel, EPA
Carl Spreng, CDPHE
Dave Kruchek, CDPHE
John Rampe, DOE
Scott Surovchak, DOE
John Boylan, Stoller
George Squibb, Stoller
Linda Kaiser, Stoller
Anna Montoya, Stoller

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Notification of Adverse Biological Condition, March 27, 2007, Central Operable Unit (COU) Boundary Fence Wildlife Deaths

Consultation Date: April 4, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak / DOE, Linda Kaiser / S.M. Stoller, Jeremiah McLaughlin / S.M. Stoller, Jody Nelson / S.M. Stoller/PEG

Regulatory Contact(s) / Affiliation(s):
Carl Spreng / CDPHE

Contact Record Approval Date:

Discussion:

In preparation for the transfer of part of the portions of the Peripheral Operable Unit (POU) to the U.S. Fish and Wildlife Service (USFWS), a 4-strand barbed wire fence was installed around the boundary of the Central Operable Unit (COU). Since completion of the fence in mid-March 2007, there have been three mule deer that have become entangled in the fence and died as a result. A notification to the regulatory contact was made on March 27, 2007, per the requirements in the Rocky Flats Legacy Management Agreement (RFLMA; see attachment). In order to minimize future impacts, DOE requested representatives of the USFWS to visit the Site and inspect the fence. Based on the visit on March 28, 2007, the USFWS indicated that they saw no problems with the design or installation of the fence. The suggestion was made that perhaps something could be done to make the fence more visible for the wildlife until they get used to its presence.

Based on internal discussions between DOE and S.M. Stoller personnel it was decided that an evaluation be made to determine where the deer most commonly cross the fence and then look into some type of marking that could be placed on the fence at those locations to make the fence more visible. On April 2, 2007, Site ecologists walked the entire length of the COU fence and noted the locations where deer seem to frequently cross the fence. Based on an internet search, a product called a fence flag warning device (see attachment) was identified that could be used to make the fence more visible to wildlife. The fence flags are molded, bright white, oval plastic shaped flags that are suspended from the top wire of the fence and flutter in the breeze making the fence more visible. The fence flags will be placed on the fence at the frequently used deer crossing locations to help make the deer aware of the fence.

DOE discussed the issue with CDPH&E on April 4, 2007.

Resolution:

DOE will place the fence flags on the fence and continue to monitor the fence line to determine if the fence flags are preventing future injury or death to the mule deer or other wildlife at the Site. The parties will notified if problems continue and contact records for future consultations regarding the fence will be generated as required.

Contact Record Prepared by: Jody Nelson

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Jeremiah McLaughlin, Stoller
Jody Nelson, Stoller/PEG
Anna Montoya, Stoller
Site Operations Guide

Voltmeters & Fence Monitors

Voltmeters determine if there is sufficient voltage on the fence to control the animals. If fence voltage is lower than 2000 volts, check ground rods, wire connections, and the fence for shorts. A more powerful charger may be needed. Our Digital Voltmeter (VSXK) reads up to 9,900 volts on an easy to read LCD display using a nine volt battery. This is the most accurate fence meter we have tested. If your budget cannot justify an expensive voltmeter, an economy version is also available. The Five Light tester is a minimum requirement to maintain an electric fence properly. A single bulb neon tester can light with less than 100 volts.

VPP

NEW! **The Electric Fence Tester** (VPP) and **Compass™** (VPX) are ideal when saving time is important or for areas where the problem just can't be found. These instruments give a digital readout of the fence voltage, the amperage flow and even the direction of the short. No wires are used with these. If you professionally install electric fence, you need one. The Compass™ has a large backlit LCD screen and beeper. **FREE SHIPPING**

VPX

Fence Compass™	VPX	109.00
Electric Fence Probe	VPP	108.00

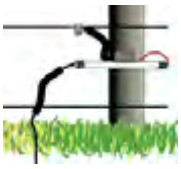
VSXK

Kencove's **Digital Voltmeter** (VSXK) reads up to 9000 volts on an easy-to-read LCD display using a 9-volt battery (included). This is the most accurate fence meter we have tested.

VSX

The **Stafix Digital Voltmeter** is durable and reliable with automatic on/off and reads from 100 to 10,000 volts. Large clips are included for attaching to the live wire and earth contact.

Voltmeters		
NZ Digital Voltmeter	VSX	67.50
Digital Voltmeter	VSXK	41.50
5 Lite Tester	V5L	10.75



The **Kencove Night Light** (MNL) is a fluorescent light that can be hung from an electrified fence wire or attached to a post. One Night Light wire (insulated, galvanized steel) is attached to a hot fence wire with the included tap (CBT), and the other wire (stainless steel) goes to a ground rod. The ground rod does not have to be long; some people use a ten inch brace pin. The light flashes with every pulse of the charger, making it easy to see if the fence is hot from a distance at night. It also warns animals to stay away from the fence. The night light has been improved for better durability but it has no guarantee. If lightning hits the fence, remember Kencove's cost is much less than others.

Fence Monitors		
Kencove Night Light	MNL	21.00
Replacement Bulb	ZZN003	4.25

Kencove's **5-Light Tester** is more rugged than other units, with brighter lights to increase daytime visibility.

5 Lite Tester	V5L	10.75

NEW! **Stafix Fence Alert™** flashes when fence voltage drops below 1 of 2 preset voltage levels. Easily clips to fence. The battery lasts up to 5 years in standby mode and runs the strobe light for over 2 weeks.

Fence Alert	MFA	17.95

Warning Signs & Fence Flags

The **Kencove Sign** (MFSP) is yellow and provides good visibility. The Stafix (MFS) has plastic clips for attaching onto the fence wire and also has 5 holes for different attachment methods. All signs are printed "ELECTRIC FENCE" on both sides and are made of yellow plastic. Use the stainless steel spring type K-CLIPS® for secure hanging of the signs. The clips will keep the sign from sliding down the smooth wire.

For fence lines needing more visibility to livestock, wildlife or humans, consider using our **FENCE-FLAG®** warning device. Designed to flutter with the slightest breeze, these molded, bright white, oval shaped flags are suspended on a stainless steel, spring temper **K-CLIP®** that securely attaches with finger tip application to any style wire or twine fence line. They are packed in bags containing 12 stainless steel K-CLIPS® and 12 molded flags. Quickly and easily installed!

MFSP

MFF

MFS

Stafix Fence Sign Plastic Clip-on type	MFS	1.99
Kencove Electric Fence Sign Plastic	MFSP	.75

K-CLIPS® grip the wire with spring action, stainless steel 50/pk	MFC	8.00
FENCE-FLAG® 12/pk with K-CLIPS® White	MFF	3.65

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Discussion and approval of exploratory excavations to greater than 3 feet below grade around the former Interceptor Trench Pump House

Contact Record Approval Date: June 6, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak / DOE, John Boylan / S.M. Stoller, Linda Kaiser / S.M. Stoller, Jody Nelson / S.M. Stoller

Regulatory Contact(s) / Affiliation(s):
Carl Spreng / CDPHE

Discussion:
The Solar Ponds Plume Treatment System (SPPTS) collects and treats water contaminated with nitrate and uranium. Effluent from this system is discharged at the Solar Ponds Plume Discharge Gallery (DG) via remnants of the pre-existing Interceptor Trench System (ITS). Although only low concentrations of residual nitrate and uranium are in the system effluent, concentrations of these constituents in water at the DG are elevated, often exceeding concentrations in untreated SPPTS influent. These elevated concentrations contribute to contaminant levels in North Walnut Creek. For future compliance purposes and to reduce long-term operation and maintenance costs, the source(s) of this higher-concentration water, and possible replacement of the existing SPPTS with a more efficient system in the originally-proposed valley-bottom location, should be evaluated.

Resolution:
Additional sources of ground water that may contribute to elevated concentrations of nitrate and uranium monitored at the DG will be investigated by using a backhoe or similar equipment to “pothole” around the location of the former Interceptor Trench Pump House (ITPH). Specific targets include the main western manifold of the ITS, the associated connection to the DG, and the main eastern manifold of the ITS. Some sources indicate these manifolds are constructed of perforated pipe, possibly gravel-wrapped, suggesting the elevated nitrate and uranium reported at the DG may be due to hillside contamination intercepted by the manifolds or remnants of the ITS feeder lines. Alternatively, the source may be the ITPH area itself, since water with elevated concentrations of nitrate and uranium saturated this area on many occasions during ITS and ITPH operation. Finally, the eastern manifold of the ITS, which is fed by lines that were not intercepted by the SPPTS intercept trench, may also contribute to the DG.

The targets described above are expected to be deeper than three (3) feet below ground surface (ft bgs), but are not expected to be deeper than approximately 8 ft bgs. Once located, pipes will be inspected for perforations/wrapping and other construction details; surveyed for x, y, and z coordinates; and if appropriate, the pipes will be penetrated and water flow will be measured. Samples may also be collected if conditions are favorable for this activity.

Because the hillside in which the ITS and SPPTS are located is typically dry and consists of clayey colluvium overlying tight claystone, performing this work during the wetter spring months is desirable in order to collect the maximum amount of data.

An email discussing the potholing was provided on May 10, 2007 to Carl Spreng, CDPHE. This email and his authorizing response, dated May 11, 2007, are attached.

Contact Record Prepared by: John Boylan

Distribution:

Carl Spreng, CDPHE
Scott Surovchak, DOE
John Boylan, Stoller
George Squibb, Stoller
Linda Kaiser, Stoller
Rick DiSalvo, Stoller
Anna Montoya, Stoller

Supplementary Information Regarding Excavation

CDPHE has requested that the following information be included in contact records for soil excavation.

1 - Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption won't be violated (or state that there are none if that is the case)-

The exploratory excavation is in the vicinity of the former Interceptor Trench Pump House (ITPH) known as building 308D. The building was removed as documented in the 9/22/03 Type 1 Facility Closeout Report for Buildings 308B and 308D. The closeout report indicates that utilities were disconnected and capped three feet below grade.

2 - Provide information about any former IHSSs/PACs or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination)-

The closeout report indicates that there is no contamination of remaining soils, and this area was not an IHSS. The RI/FS Nature and Extent of Soil Contamination Figures do not indicate soil contamination in this area. Ground water in the vicinity is impacted by the Solar Ponds Plume. Any ground water that is encountered will be collected from the excavation if necessary to conduct the investigative work and be treated in the Solar Ponds Plume Treatment System.

3 - Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored)-

All excavated soils will be returned to the excavation and original contours restored.

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Discussion and Approval of Excavation Greater than 3 Feet Below Grade in FC-1 Soil Borrow Area and Placement of Soil South of Former B371 Location to Eliminate Ponding Around Well Heads for Wells 33502, 33604, and 33703

Contact Record Approval Date: June 6, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak / DOE, John Boylan / S.M. Stoller, Linda Kaiser / S.M. Stoller, Jody Nelson/ S.M. Stoller (subcontractor), Rick DiSalvo, S.M. Stoller (subcontractor)

Regulatory Contact(s) / Affiliation(s):
Carl Spreng / CDPHE

Discussion:

Conceptual plans to use the eastern portion of the bottom of the soil borrow area that created Functional Channel (FC)-1 as part of the Rocky Flats Land Configuration work (the large borrow area west of where Building 371 used to sit) as additional fill material are under development. The fill material will be used to fill some low spots that "pool" water around ground water wells south of the B371 area and also to recontour the area so that the water from precipitation events drains away from the wells. The excavation work will likely exceed the 3-foot-depth limit specified by the institutional controls (RFLMA, Attachment 2, Table 4, Control 2) and thus requires pre-approved procedures. We expect the total depth to be no greater than 3 to 5 feet below current grade. Erosion controls will be employed in accordance with the Central Operable Unit (OU) Erosion Control Plan. The excavated area will be contoured after removal of the fill material, so that the water that currently flows in a ditch on the east side of the bottom of FC-1 will flow across the bottom of the excavated area, thus potentially creating additional wetland at the Site.

The borrow area is not located in Preble's mouse habitat; therefore, there are no Endangered Species Act issues with the project.

The attached S.M. Stoller 5/30/07 Conceptual Design Grading Plan has been developed to provide the location information of the proposed borrow/fill area to allow regulatory review in relation to the institutional control. CDPHE approval for this work is requested before final design and procurement activities proceed. It is anticipated that the construction work would be done in August or September 2007.

CDPHE has requested that the following information be included in contact records for soil excavation related to this institutional control:

1 - Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

There are no remaining subsurface structures in the borrow area so that the minimum cover assumption is not relevant.

2 - Provide information about any former IHSSs/PACs or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination).

The proposed borrow area is not near any soil or ground water contamination. Two IHSSs were located in the area, PAC 300-700, Scrap Roofing Disposal, and PAC 300-702, Pesticide Shed. These were investigated and dispositioned with approval of No Further Accelerated Action as discussed in the Historical Release Report, RI/FS Appendix B. When the area was excavated during construction of FC-1 in 2005, scrap material was found in the location of PAC 300-700, but was determined to be not hazardous.

3 - Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

The approximate final contours of the borrow and fill area are expected to conform to the final grading plan.

Resolution:

Carl Spreng, CDPHE, approved the FC-1 area indicated on the S.M. Stoller 5/30/07 Conceptual Design Grading Plan for excavation to depths below 3 feet to obtain borrow soil and place it on the fill area shown on the Grading Plan.

Thus, Stoller will continue with the design to allow procurement activities to proceed.

Contact Record Prepared by: Jody Nelson and Rick DiSalvo

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record File

LEGEND:

- EXISITING CONTOURS
- REGRADE CONTOURS
- ROAD
- RIPRAP
- AREA OF PONDED WATER AFTER SNOWMELT
- NEW DITCH/FUNCTIONAL CHANNEL
- OLD DITCH/FUNCTIONAL CHANNEL

NOTES:

1) VOLUME OF CUT FROM WESTERN WETLAND EXCAVATION TO BE UTILIZED FOR CENTRAL PONDING AREA FILL. REGRADE CONTOUR AS SHOWN WILL PRODUCE APPROXIMATELY 6,000 CY OF MATERIAL.

GRADING PLAN

CONCEPTUAL DESIGN

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

APPROVALS		
DRAWN BY: A. TUMEY	DATE: 5/30/07	
ENGINEER: J. KIENHOLZ	5/30/07	
PROJECT ENGINEER		
APPROVED BY: M. MADRIL	5/30/07	
PROJECT MANAGER: L. KAISER	5/30/07	
DOE CONCURRENCE: (SEE RECORD)	5/30/07	

AREA B371/FC-1 GRADING

GRADING PLAN

PROJECT NO. LTS-111-0056-13-001C
SHT. 1 OF 1
DRAWING NO. S03222-RAC-C02-D+

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Discussion and approval of soil disturbance for Phase III road improvement work involving the construction of roadside drainage ditches that will not return excavation to preexisting grade.

Contact Record Approval Date: August 17, 2007

Site Contact(s)/Affiliation(s):
Jeremiah McLaughlin, S.M. Stoller
Rick DiSalvo, S.M. Stoller

Regulatory Contact(s)/Affiliation(s):
Carl Spreng, CDPHE

Discussion

The engineering design for the Phase III road repair/maintenance work to be conducted in August 2007 includes four areas where drainage ditches are to be constructed alongside the roads. When they are completed, the center of the ditches will be 1 foot below the existing grade with an approximately 3:1 taper up to the existing grade. The design for one other area, the road leading to the Mound Treatment System, calls for four water bars (a shallow depression bordered by a hump similar to a speed bump) to be constructed across the road to channel runoff. The water bar depressions are 9 inches below the existing grade, and the hump is 9 inches above the existing grade. The ditches and water bars facilitate drainage to minimize the effects of heavy precipitation on these areas of the roads.

Attached is a Central Operable Unit aerial photograph showing the locations where ditches are to be constructed.

The Rocky Flats Legacy Management Agreement (RFLMA), Attachment 2, Table 4, Institutional Control (IC) Number 3, stipulates that soil disturbance must be in accordance with the CDPHE-approved Erosion Control Plan (ECP) and that the soil surface must be restored to the preexisting grade after any soil-disturbance activity has occurred. Work will be done in accordance with the ECP, but of necessity, soil will not be restored to the preexisting grade where the ditches and water bars are to be constructed.

The ditches and water bars are needed to meet the design objective to facilitate drainage, and the construction is a field modification. DOE may implement field modifications that are consistent with the intent of the approved action (in this case, IC Number 3) upon approval by CDPHE, in accordance with RFLMA, paragraph 34. This contact record is to document CDPHE approval.

The objective of the IC is to maintain the current depth to subsurface contamination or contaminated structures. This IC also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1x10-6. Based on a review of the areas where ditches and water bars are to be constructed, and based on the limited aerial extent, the minor change in depth to subsurface contamination does not impact compliance with the risk management policy.

CDPHE has requested that the following information be included in contact records for soil excavation related to this IC that will not return soil to the preexisting grade:

1) Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

A portion of the Original Process Waste Line (OPWL), IHSS 000-121 (for more information on IHSS 000-121, see item 2, below), runs under the road at approximately the center of the ditch planned for Area AA, which is along former Central Avenue. The portion is identified as P11, a 3-inch rubber pipe inside a 4-inch fiberglass pipe. This pipe is located at approximately 5.5 feet below the surface.

A portion of the sanitary sewer system, IHSS 000-500 (for more information on IHSS 000-500, see item 2, below), runs under the road (former Central Avenue), with two intersecting lines from the south of the road joining at approximately the eastern and western ends of Area AA. In Area AA, two manholes were completely removed, three manholes were removed to 4 feet below the surface, and any remaining piping is at least 3 feet belowground.

None of the other areas where ditches or water bars are planned to be constructed have remaining subsurface structure in the vicinity.

2) Provide information about any former IHSSs/PACs or other known soil or ground water contamination in the vicinity (or state that there is no known contamination).

Only Area AA is in the vicinity of IHSSs/PACs or other known soil or ground water contamination. Portions of the following IHSSs/PACs in the vicinity of the ditch planned for Area AA and their disposition are as follows:

IHSS 000-121 (OPWL): The OPWL system was a network of underground pipelines and tanks used to transport and store aqueous chemical and radioactive process wastes for subsequent treatment. Site wide, all OPWL was tapped, drained of any residual liquid, and grouted to the extent possible. Approximately 17,000 feet of OPWL were removed, and approximately 14,700 feet were grouted and left in place, which includes line P11 running under and perpendicular to the road in Area AA. Soils adjacent to OPWL were sampled, contaminated soils were removed in accordance with Rocky Flats Cleanup Agreement (RFCA) accelerated action decision document requirements, and excavations were backfilled with clean soils. No Further Accelerated Action was approved by CDPHE in 2005.

IHSS 000-162 (Radioactive Site, 700 Area): This area was at approximately the central portion of Area AA, and it was identified based on ground water monitoring results in 1974 and air monitoring results in January 1981, which indicated the presence of residual radioactivity in the area. This IHSS essentially coincided with the OPWL in this area and was considered part of the OPWL (IHSS 000-121) characterization work. No Further Accelerated Action was approved by CDPHE in 2005.

IHSS 000-190 (Caustic Leak [a.k.a. Central Avenue Ditch]): In 1978 1,000 to 1,500 gallons of 2.5 Normal NaOH leaked into the Central Avenue Ditch. The NaOH was adequately neutralized after the spill, and subsequent storm water flows in the ditch flushed away any remaining NaOH. No Further Accelerated Action was approved by CDPHE in 2005.

PAC 000-500 (Sanitary Sewer System): The sanitary sewer system was used for the transport, storage, and treatment of sanitary waste throughout the operating history of Rocky Flats. Sanitary sewer lines and connecting lines from buildings ran under and alongside Central Avenue. There were several releases to the system over its operating life, and for many years, normal discharge to the system included radioactively contaminated laundry water. All of the major discharges occurred prior to 1990, and significant volumes of sewage, and the jet washing of lines to remove sludge served to subsequently flush the lines. The contamination of soil by leaking pipes was unlikely because ground water infiltrated the system rather than sewage leaking out of it. The system was closed by removing any lines to at least 3 feet below grade, removing manholes completely or to at least 4 feet below grade, and grouting open ends resulting from building disconnection. Lines and bedding material were disrupted at various locations to eliminate the possibility of preferential ground water flow paths. No Further Accelerated Action was approved by CDPHE in 2005.

PAC 000-503 (Solar Pond Water Spill along Central Avenue): A tanker truck transporting water from the Solar Evaporation Ponds to the former Building 374 storage tanks spilled about 35 gallons over a half-mile stretch of asphalt on Central Avenue in 1994. The spilled water was cleaned up from the asphalt. No Further Accelerated Action was approved by CDPHE in 2002.

PAC 000-505 (Storm Drains): The storm drains provided site drainage from roads, parking lots, and other areas throughout the operating history of Rocky Flats. Sanitary sewer lines and connecting lines from buildings ran under and alongside Central Avenue. There were eight specific contaminant-release areas associated with PAC 000-505, and these were identified as IHSSs or PACs and individually dispositioned in accordance with RFCA. Storm drains were removed or disrupted at various locations to eliminate the possibility of preferential ground water flow paths. Characterization did not indicate that subsurface soil removal was necessary. In Area AA, the storm drains were removed. No Further Accelerated Action was approved by CDPHE in 2005.

More detailed information on these PACs/IHSSs and the disposition of these areas is in the *Historical Release Report*, RI/FS, Appendix B.

3) Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

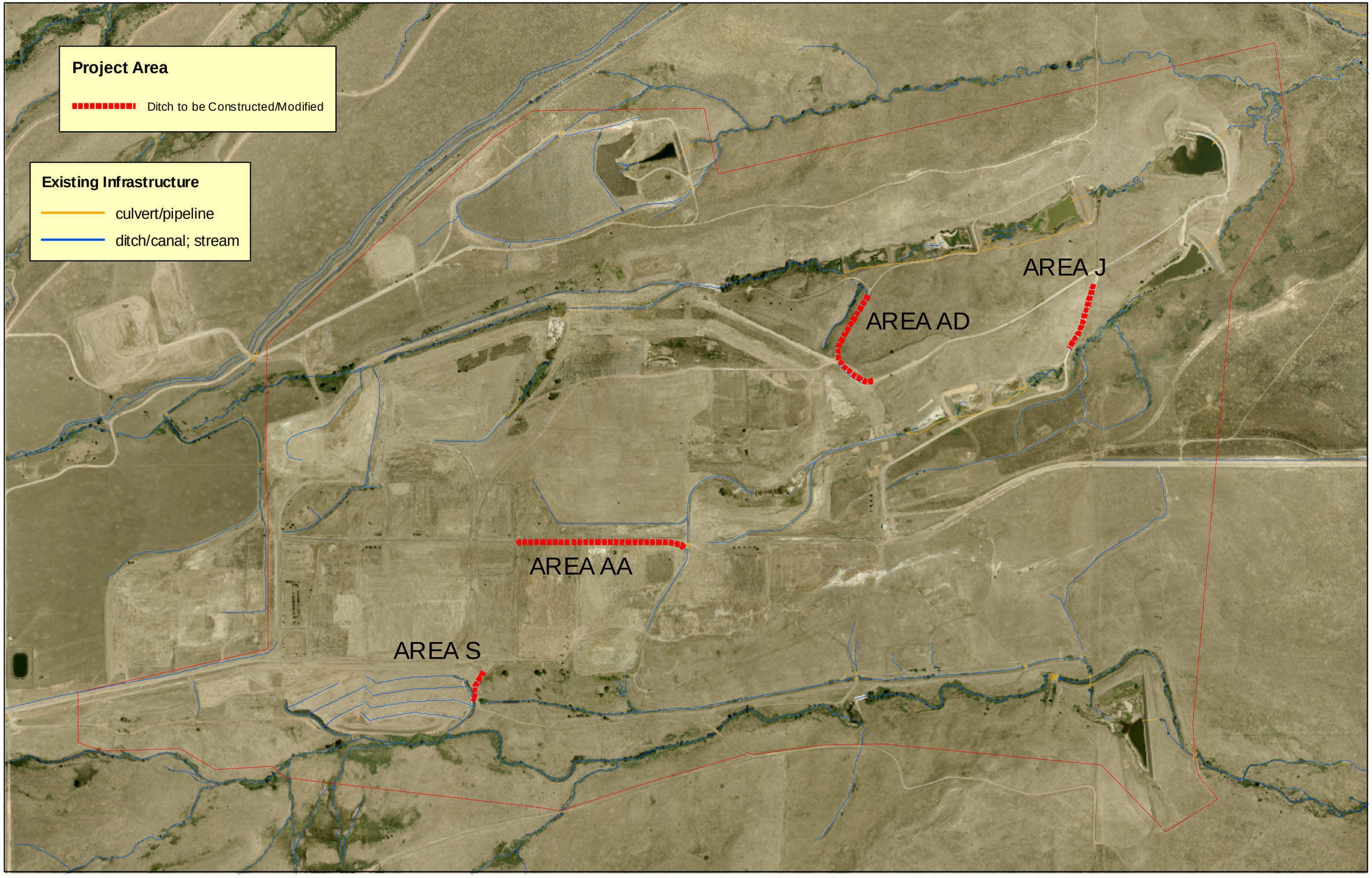
When completed, the center of the ditches will be 1 foot below the existing grade with a 3:1 taper up to the existing grade. The water bar depressions are 9 inches below the existing grade, and the hump is 9 inches above the existing grade.

Resolution

Carl Spreng, CDPHE, approved the placement of the ditches and water bars as described in this contact record.

Contact Record Prepared by: Jeremiah McLaughlin and Rick DiSalvo

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, S.M. Stoller
Rocky Flats Contact Record File


Project Area
Ditch to be Constructed/Modified
Existing Infrastructure
culvert/pipeline
ditch/canal; stream
AREA J
AREA AD
AREA AA
AREA S

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Grading the Slump Area South of FC-4 and Former Building 991

Contact Record Approval Date: September 27, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak, DOE
John Boylan, S.M. Stoller
Rick DiSalvo, S.M. Stoller

Regulatory Contact(s) / Affiliation(s):
Carl Spreng / CDPHE

Discussion

The hillside slump south of the location of former Building 991 on the south side of Functional Channel (FC)-4, which began developing in 2006, needs to be regraded and seeded to stabilize the hillside and address worker safety and aesthetic concerns. The slumping is likely due to water saturation of the soils caused by disruption of the French drain underlying the hill and removal of the outfall associated with the drainage during closure. The hillside was constructed as part of the former Protected Area security fencing installation in the 1970s. The regrading is anticipated to make the topography of the area similar to that which existed prior to the hillside construction. Sentinel well 45605 is located within the slumping area; its casing is no longer vertical and the stress caused by the slumping is affecting its long-term serviceability. This well needs to be replaced after the grading work is completed. Other than the Sentinel well location, movement of the soils creating the slump does not affect the implementation of the remedy.

The excavation work will exceed the 3-foot-depth limit specified by the institutional controls (Rocky Flats Legacy Management Agreement [RFLMA], Attachment 2, Table 4, Institutional Control 2) and thus requires pre-approved procedures.

DOE, CDPHE, and Stoller staff informally consulted on August 30, 2007, on the regrading concept, and the attached S.M. Stoller Conceptual Design shows the grading location, depth of excavation, and placement of fill based on the outcome of those discussions. Note that Design Sheet 3 also shows the location of former Individual Hazardous Substance Site (IHSS) 154, the Pallet Burn Site, which is discussed in more detail below.

The regrading is projected to generate approximately 7,000 cubic yards of excess material. This soil will be spread at and adjacent to the former 903 Pad area (refer to Design Sheet 8), which will facilitate revegetation efforts in this area. The fill placement activity will conform with the applicable institutional controls, and the final elevation after fill placement and reseeding is expected to be slightly above the existing elevation. Erosion controls for the regrading excavation and fill activities will be employed in accordance with the Central Operable Unit (OU) Erosion Control Plan.

CDPHE approval for this work is requested before final design and procurement activities proceed. It is anticipated that the construction work will be completed in November 2007.

The objective of the institutional control is to maintain the current depth to subsurface contamination or contaminated structures. This control also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6}. Based on a review of the location of the regraded area, the limited aerial extent, and the minor change in depth to subsurface contamination, the regrading does not impact compliance with the risk management policy.

CDPHE has requested that the following information be included in contact records for soil excavation related to this institutional control that will not return soil to the preexisting grade:

1 - Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

There are no subsurface structures in the vicinity. The slump has been informally referred to as the "Building 991 slump" for ease of reference due to its proximity to the location of former Building 991. Portions of former Building 991 remain in the subsurface, but are located north of FC-4, well outside the hillside slump regrading activity area.

2 - Provide information about any former IHSSs/PACs or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination).

The following IHSSs/Potential Areas of Concern (PACs) are in the vicinity of the hillside slump regrading activity area:

- IHSS 154 (PAC 900-154), Pallet Burn Site – Oil-contaminated pallets and other wood debris were burned in this area, which is located south of the slumping soils, just north of FC-5. The conceptual design drawing (Sheet 3) shows that the extent of regrading just touches the northern extent of IHSS 154, approximately between the southern end of Sections E and F (Sheets 6 and 7). Burning activities were conducted in 1965 and the area was removed sometime in the 1970s. Characterization of this IHSS in 2002, as part of IHSS Group 900-2, resulted in three of six sample locations with detectable levels of arsenic, and two of the three locations had arsenic above the wildlife refuge worker (WRW) soil action level specified in the Rocky Flats Cleanup Agreement (RFCA), both at depths greater than 4.5 feet below the surface.

  Detected arsenic concentrations in the three locations ranged from 15.3 to 55.1 milligrams per kilogram (mg/kg). The two sample concentrations above the WRW RFCA soil action level of 22.2 mg/kg were 24.1 and 55.1 mg/kg. Based on the RFCA Attachment 5 Subsurface Soil Risk Screen, soil removal was not required because of the depth of the samples with concentrations above the WRW RFCA soil action level and because the IHSS was not in a significant erosion area, as identified in RFCA Attachment 5. No Further Accelerated Action was approved by CDPHE in 2002.

  The proposed regrading may remove some soil adjacent to IHSS 154, but this would not significantly decrease the elevation of soils within IHSS 154. Prior to regrading, the

boundaries of IHSS 154 will be surveyed and marked. No excavation will take place inside the IHSS boundary.

- IHSS 192 (PAC 000-192), Antifreeze Discharge – On December 2 or 3, 1980, approximately 155 gallons of antifreeze solution, 25% ethylene glycol in water, were discharged from a brine chiller evaporator into a floor drain in former Building 708. The floor drain discharged into a buried culvert, which subsequently discharged into South Walnut Creek. The discharge was impounded in Pond B-1 and 5,000 gallons of water were flushed through the drainage system into Pond B-1. Based on the degradation model for ethylene glycol, it was predicted to reach undetectable levels in leachate and soil within 1 week of the discharge.

  IHSS 192 was part of OU 16, Low Priority Sites, and a No Action remedy for this IHSS was approved in the 1994 OU 16 Corrective Action Decision/Record of Decision.

- PAC 000-503, Solar Pond Water Spill Along Central Avenue – In 1994, a tanker truck transporting water from the Solar Evaporation Ponds to the former Building 374 storage tanks spilled approximately 35 gallons over a 0.5-mile stretch of asphalt on Central Avenue. The spilled water was cleaned up from the asphalt. No Further Accelerated Action was approved by CDPHE in 2002.

More detailed information on these PACs/IHSSs and the disposition of these areas is provided in the Historical Release Report, Appendix B of the Remedial Investigation/Feasibility Study Report.

3 - Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When completed, the new surface elevations will be consistent with the final design drawings for the regrading work. Final elevations will be surveyed and the resulting data will be used to update the Central OU topography maps.

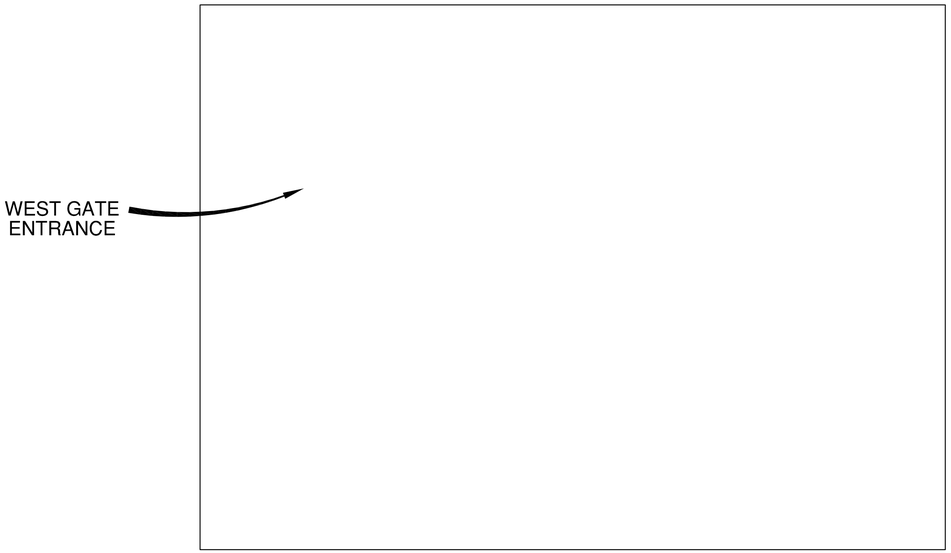
Resolution

Carl Spreng, CDPHE, approved the regrading work as described in this Contact Record.

Contact Record Prepared by: Rick DiSalvo

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
File

UNITED STATES
DEPARTMENT OF ENERGY
LEGACY MANAGEMENT
ROCKY FLATS SITE
BUILDING AREA 991 SLUMP REPAIR



SITE LOCATION MAP

INDEX OF DRAWINGS

SHEET	TITLE	DRAWING NO.
1	TITLE SHEET	S03433-R00-T01-D+
2	PROJECT SITE PLAN	S03434-R00-F01-D+
3	GRADING PLAN	S03435-R00-C01-D+
4	SECTIONS A AND B	S03436-R00-C02-D+
5	SECTIONS C AND D	S03437-R00-C03-D+
6	SECTIONS E AND F	S03438-R00-C04-D+
7	SECTIONS G AND H	S03439-R00-C05-D+
8	EROSION CONTROL PLAN	S03640-R00-C06-D+

ABBREVIATIONS

APPROX.	APPROXIMATE	HORIZ.	HORIZONTAL	SHT	SHEET
℄	CENTER LINE	INV	INVERT	SPPTS	SOLAR POND PLUME TREATMENT SYSTEM
DIA.	DIAMETER	MAX.	MAXIMUM	STA.	STATION
DOE	DEPARTMENT OF ENERGY	MIN.	MINIMUM	THK.	THICK
E	EASTING	MW	MONITORING WELL	TYP.	TYPICAL
EL. OR ELEV.	ELEVATION	N	NORTHING		
EXIST.	EXISTING	NA	NOT APPLICABLE		
		NIC	NOT IN CONTRACT		
		NTS	NOT TO SCALE		

DRAWING LEGEND

PLAN

- –T– –O– W– BURIED – TELEPHONE/OPTICAL/WATER
- –E– –G– IP– BURIED – ELECTRICAL/GAS LINES/ IRRIGATION PIPE
- RAILROAD TRACK
- WIRE FENCE
- CHAIN LINK FENCE
- SILT FENCE
- DRAINAGE DITCH/WATER LINE LIMITS
- EXISTING UNIMPROVED DIRT ROAD
- OVERHEAD ELECTRICAL LINE
- TREES/SHRUBS/BRUSH
- EXISTING CONTOURS
- PROPOSED CONTOURS
- PROJECT ACCESS/HAUL ROUTE
- UTILITY POLE
- UNDERGROUND DRAINAGE CULVERT
- XXXX EXISTING MONITORING WELL
- 36 HIGHWAY
- SLOPE/FLOW ARROW
- TOP OF SLOPE
- SURVEY CONTROL POINT
- BUILDING/STRUCTURE
- EROSION CONTROL WATTLES

SECTION

- COMPACTED SOIL
- UNDISTURBED SOIL
- SCARIFIED SUBGRADE
- GRAVEL OR DRAIN ROCK
- REVEGETATION

DETAIL SYMBOL

1 — DETAIL NUMBER/SECTION LETTER
2 — SHEET ON WHICH DETAIL/SECTION IS TAKEN FROM
3 — SHEET ON WHICH DETAIL/SECTION IS DRAWN

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

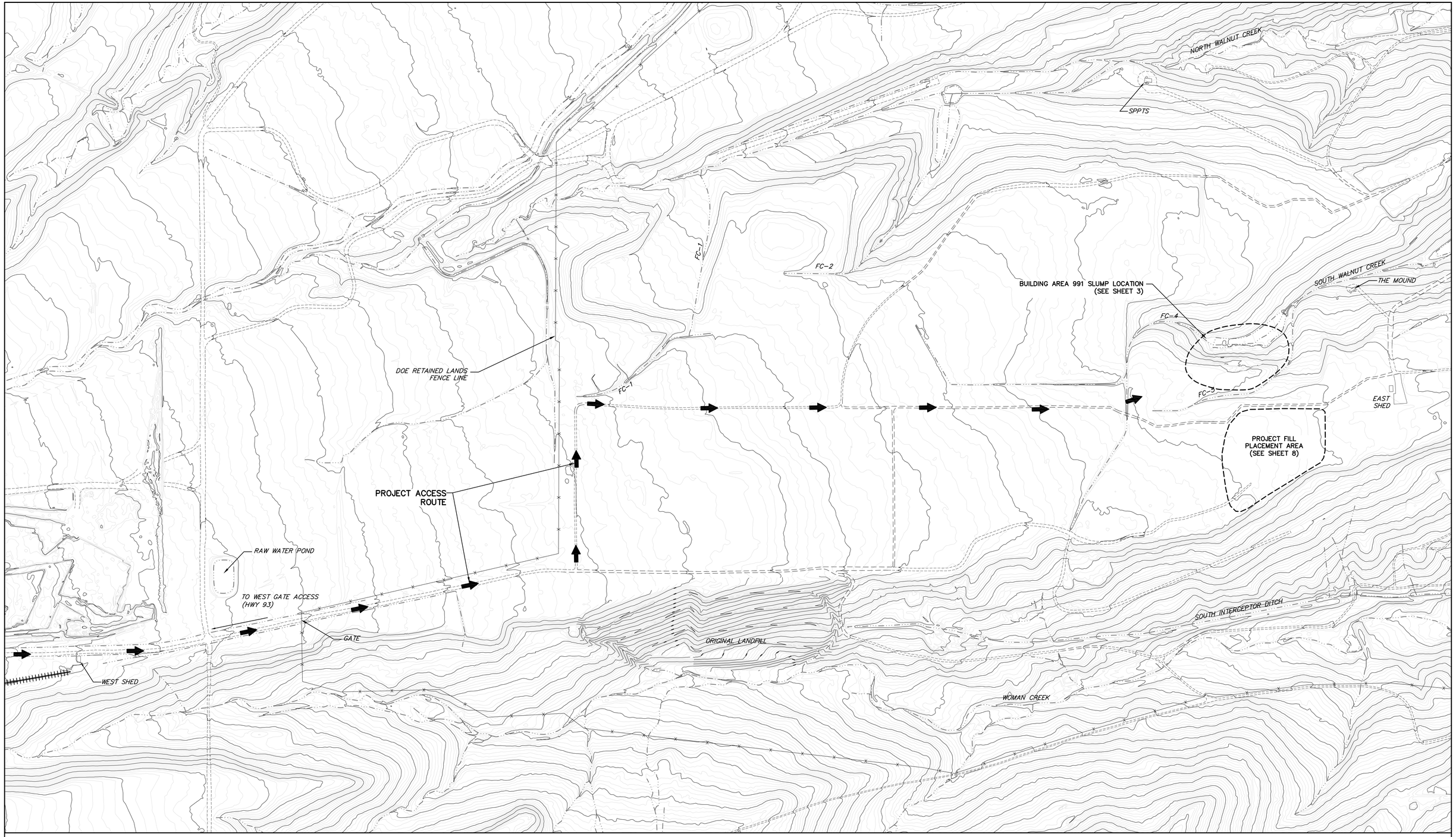
APPROVALS

		DATE
DRAWN BY:	T. BOEHLER	-/-/07
ENGINEER	J. KIENHOLZ	-/-/07
PROJECT ENGINEER		
APPROVED BY:	M. MADRIL	-/-/07
PROJECT MANAGER	L. KAISER	-/-/07
DOE CONCURRENCE	(SEE RECORD)	-/-/07

BUILDING AREA 991 SLUMP REPAIR

TITLE SHEET

PROJECT NO. LTS-111-0056-13-001D
SHT. 1 OF 8
DRAWING NO. S03433-R00-T01-D+



DITCH/CHANNEL/CREEK
BOUNDARY FENCE
OVERHEAD ELECTRIC LINE

N

SITE PLAN

SCALE IN FEET
300 150 0 300 600 900

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

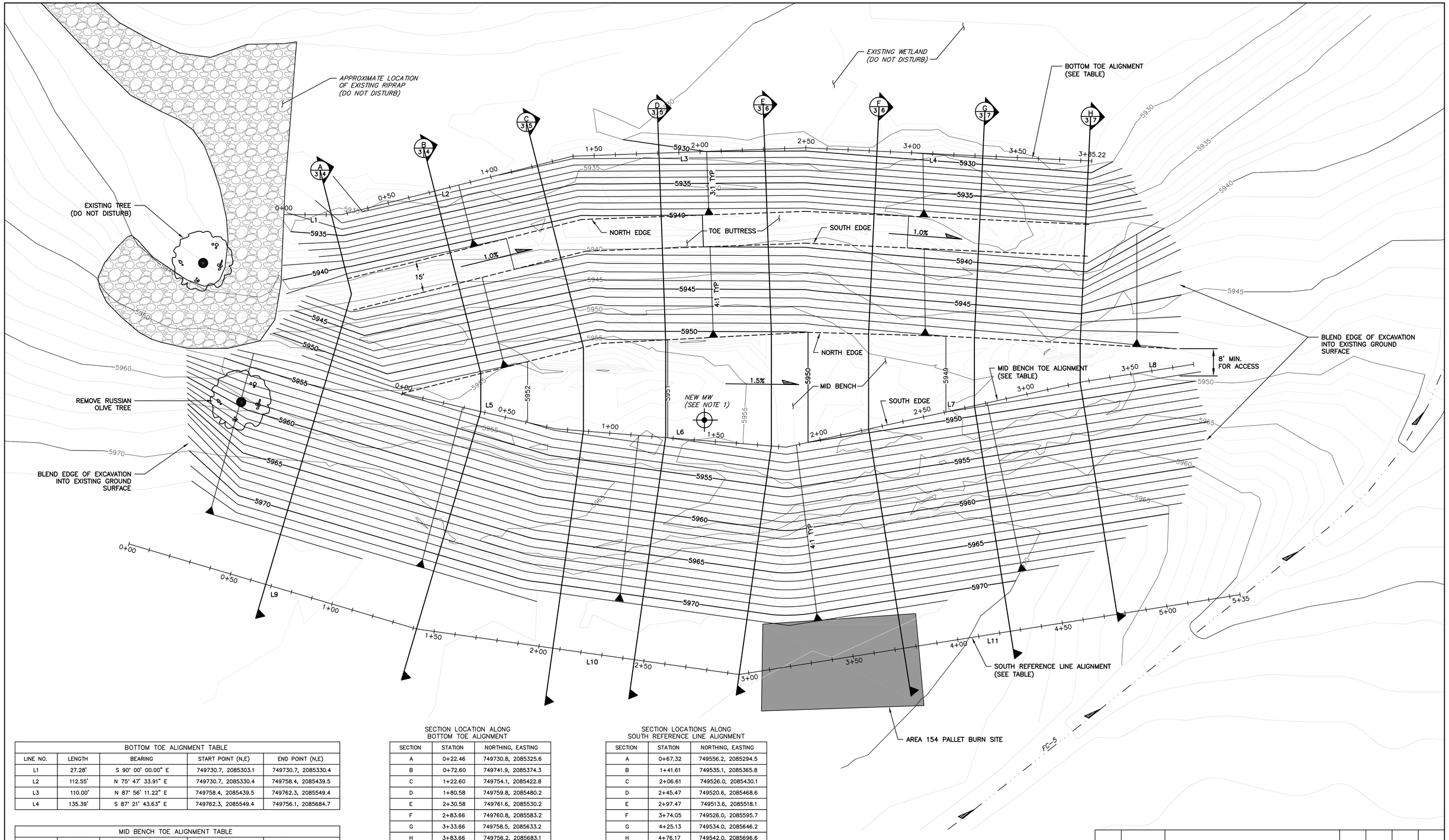
REFERENCE

APPROVALS		DATE
DRAWN BY:	T. BOEHLER	-/-/07
ENGINEER	J. KIENHOLZ	-/-/07
PROJECT ENGINEER		
APPROVED BY:	M. MADRIL	-/-/07
PROJECT MANAGER	L. KAISER	-/-/07
DOE CONCURRENCE	(SEE RECORD)	-/-/07

BUILDING AREA 991 SLUMP REPAIR

SITE PLAN

PROJECT NO. LTS-111-0056-13-001D
SHT. 2 OF 8
DRAWING NO. S03434-R00-F01-D+



BOTTOM TOE ALIGNMENT TABLE				
LINE NO.	LENGTH	BEARING	START POINT (N,E)	END POINT (N,E)
L1	27.28'	S 90° 00' 00.00" E	749730.7, 2085303.1	749730.7, 2085330.4
L2	112.55'	N 75° 47' 33.91" E	749730.7, 2085330.4	749758.4, 2085439.5
L3	110.00'	N 87° 56' 11.22" E	749758.4, 2085439.5	749762.3, 2085549.4
L4	135.39'	S 87° 21' 43.63" E	749762.3, 2085549.4	749756.1, 2085684.7

MID BENCH TOE ALIGNMENT TABLE				
LINE NO.	LENGTH	BEARING	START POINT (N,E)	END POINT (N,E)
L5	74.01'	S 76° 57' 52.83" E	749646.4, 2085359.0	749629.7, 2085431.1
L6	109.59'	S 85° 26' 32.55" E	749629.7, 2085431.1	749621.0, 2085540.4
L7	143.98'	N 77° 34' 21.09" E	749621.0, 2085540.4	749651.9, 2085681.0
L8	52.42'	N 81° 00' 22.16" E	749651.9, 2085681.0	749660.1, 2085732.7

SOUTH REFERENCE LINE ALIGNMENT TABLE				
LINE NO.	LENGTH	BEARING	START POINT (N,E)	END POINT (N,E)
L9	141.61'	S 73° 31' 51.77" E	749575.2, 2085230.0	749535.1, 2085365.8
L10	153.86'	S 81° 58' 41.00" E	749535.1, 2085365.8	749513.6, 2085518.1
L11	239.53'	N 80° 56' 59.56" E	749513.6, 2085518.1	749551.3, 2085754.7

SECTION LOCATION ALONG BOTTOM TOE ALIGNMENT

SECTION	STATION	NORTHING, EASTING
A	0+22.46	749730.8, 2085325.6
B	0+72.60	749741.9, 2085374.3
C	1+22.60	749754.1, 2085422.8
D	1+80.58	749759.8, 2085480.2
E	2+30.58	749761.6, 2085530.2
F	2+83.66	749760.8, 2085583.2
G	3+33.66	749758.5, 2085633.2
H	3+83.66	749756.2, 2085683.1

SECTION LOCATION ALONG MID BENCH TOE ALIGNMENT

SECTION	STATION	NORTHING, EASTING
A	–	–
B	0+38.10	749637.8, 2085396.1
C	0+87.54	749628.6, 2085444.6
D	1+26.47	749625.5, 2085483.4
E	1+76.56	749621.5, 2085533.3
F	2+23.42	749629.5, 2085579.3
G	2+74.59	749640.5, 2085629.2
H	3+25.72	749651.5, 2085679.2

SECTION LOCATIONS ALONG SOUTH REFERENCE LINE ALIGNMENT

SECTION	STATION	NORTHING, EASTING
A	0+67.32	749556.2, 2085294.5
B	1+41.61	749535.1, 2085365.8
C	2+06.61	749526.0, 2085430.1
D	2+45.47	749520.6, 2085468.6
E	2+97.47	749513.6, 2085518.1
F	3+74.05	749526.0, 2085595.7
G	4+25.13	749534.0, 2085646.2
H	4+76.17	749542.0, 2085696.6

NOTE:
1) NEW MONITORING WELL TO REPLACE THE MONITORING WELL DESTROYED DURING THE SLUMP TO BE INSTALLED BY OTHERS.

N

GRADING PLAN

SCALE IN FEET
20 10 0 20 40 60

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

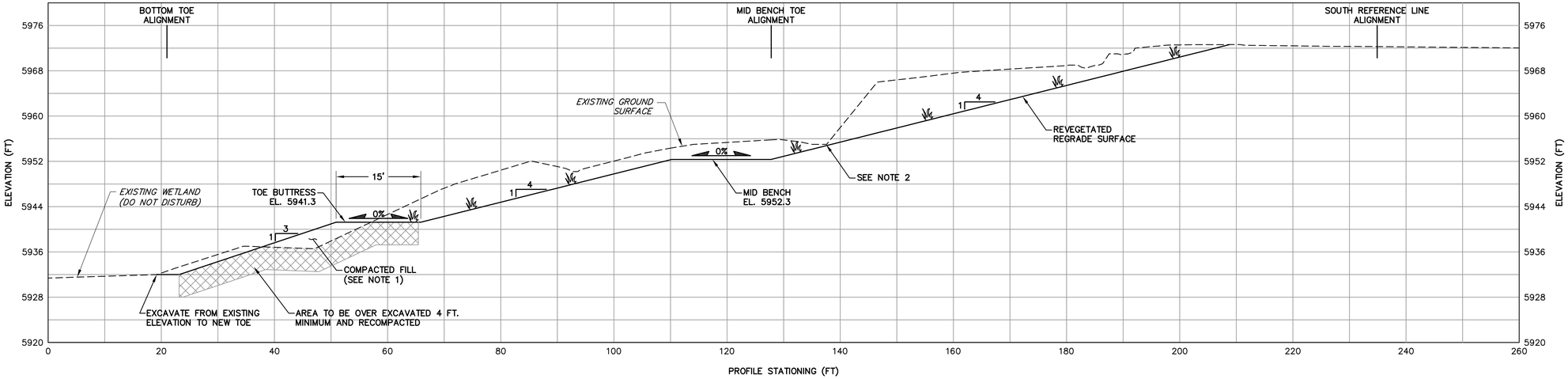
APPROVALS

		DATE
DRAWN BY:	T. BOEHLER	–/–/07
ENGINEER	J. KIENHOLZ	–/–/07
PROJECT ENGINEER		
APPROVED BY:	M. MADRIL	–/–/07
PROJECT MANAGER	L. KAISER	–/–/07
DOE CONCURRENCE	(SEE RECORD)	–/–/07

BUILDING AREA 991 SLUMP REPAIR

GRADING PLAN

PROJECT NO. LTS-111-0056-13-001D
DRAWING NO. S03435-R00-C001-D+
SHT. 3 OF 8



B 3|4 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'

A 3|4 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'

NOTE:

1) IN FILL AREAS, SCARIFY A MINIMUM 12–INCH DEPTH, WORK THE SCARIFIED MATERIAL TO A UNIFORM CONDITION AND MOISTURE CONDITION, AND COMPACT WITH A MINIMUM OF THREE PASSES WITH SHEEP'S FOOT COMPACTION EQUIPMENT.

2) EXCAVATE AND FILL LARGE SUBSIDENCE CRACKS PRIOR TO FILL PLACEMENT.

3) SPREAD FILL IN 12–INCH LIFTS (MAXIMUM).

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE–AC01–02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

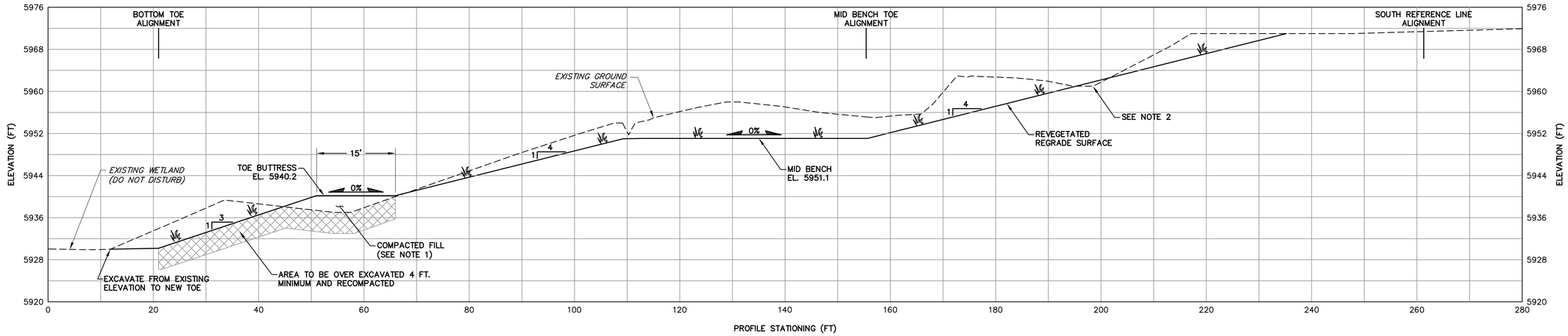
APPROVALS

		DATE
DRAWN BY:	T. BOEHLER	–/–/07
ENGINEER	J. KIENHOLZ	–/–/07
PROJECT ENGINEER		
APPROVED BY:	M. MADRIL	–/–/07
PROJECT MANAGER	L. KAISER	–/–/07
DOE CONCURRENCE	(SEE RECORD)	–/–/07

BUILDING AREA 991 SLUMP REPAIR

SECTIONS A AND B

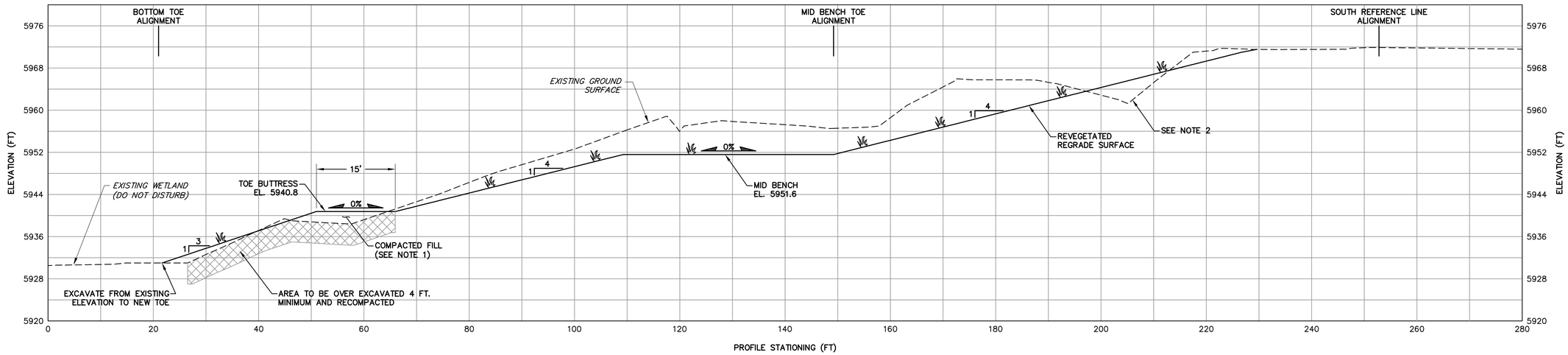
PROJECT NO. LTS–111–0056–13–001D
SHT. 4 OF 8
DRAWING NO. S03436–R00–C002–D+



D / 3 5

SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'



C / 3 5

SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'

NOTE:

1) IN FILL AREAS, SCARIFY A MINIMUM 12–INCH DEPTH, WORK THE SCARIFIED MATERIAL TO A UNIFORM CONDITION AND MOISTURE CONDITION, AND COMPACT WITH A MINIMUM OF THREE PASSES WITH SHEEP'S FOOT COMPACTION EQUIPMENT.

2) EXCAVATE AND FILL LARGE SUBSIDENCE CRACKS PRIOR TO FILL PLACEMENT.

3) SPREAD FILL IN 12–INCH LIFTS (MAXIMUM).

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

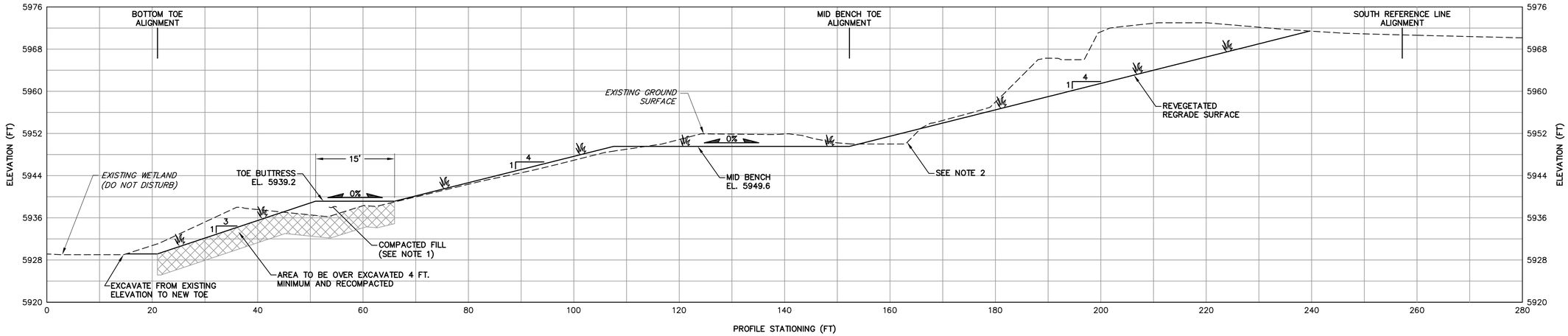
APPROVALS

		DATE
DRAWN BY:	T. BOEHLER	–/–/07
ENGINEER:	J. KIENHOLZ	–/–/07
PROJECT ENGINEER:		
APPROVED BY:	M. MADRIL	–/–/07
PROJECT MANAGER:	L. KAISER	–/–/07
DOE CONCURRENCE:	(SEE RECORD)	–/–/07

BUILDING AREA 991 SLUMP REPAIR

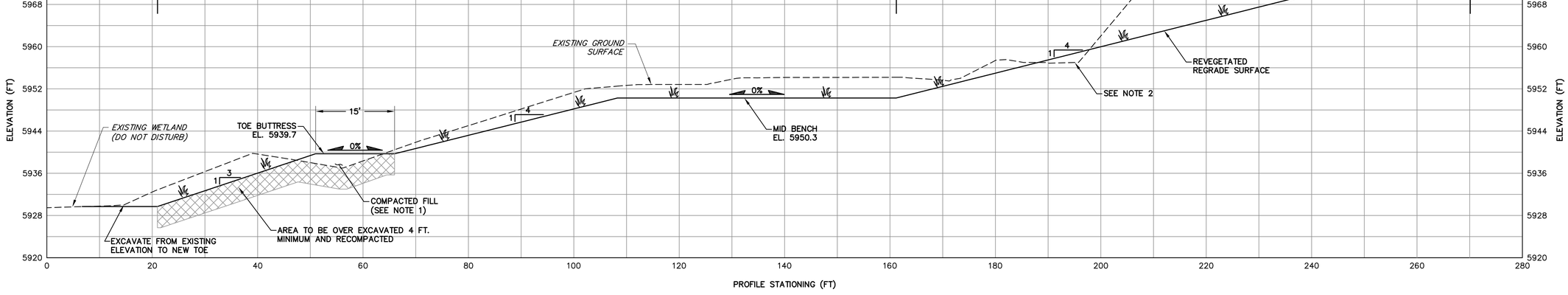
SECTIONS C AND D

PROJECT NO. LTS–111–0056–13–001D
SHT. 5 OF 8
DRAWING NO. S03437–R00–C003–D+



F / 3 6 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'



E / 3 6 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'

NOTE:

1) IN FILL AREAS, SCARIFY A MINIMUM 12-INCH DEPTH, WORK THE SCARIFIED MATERIAL TO A UNIFORM CONDITION AND MOISTURE CONDITION, AND COMPACT WITH A MINIMUM OF THREE PASSES WITH SHEEP'S FOOT COMPACTION EQUIPMENT.

2) EXCAVATE AND FILL LARGE SUBSIDENCE CRACKS PRIOR TO FILL PLACEMENT.

3) SPREAD FILL IN 12-INCH LIFTS (MAXIMUM).

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

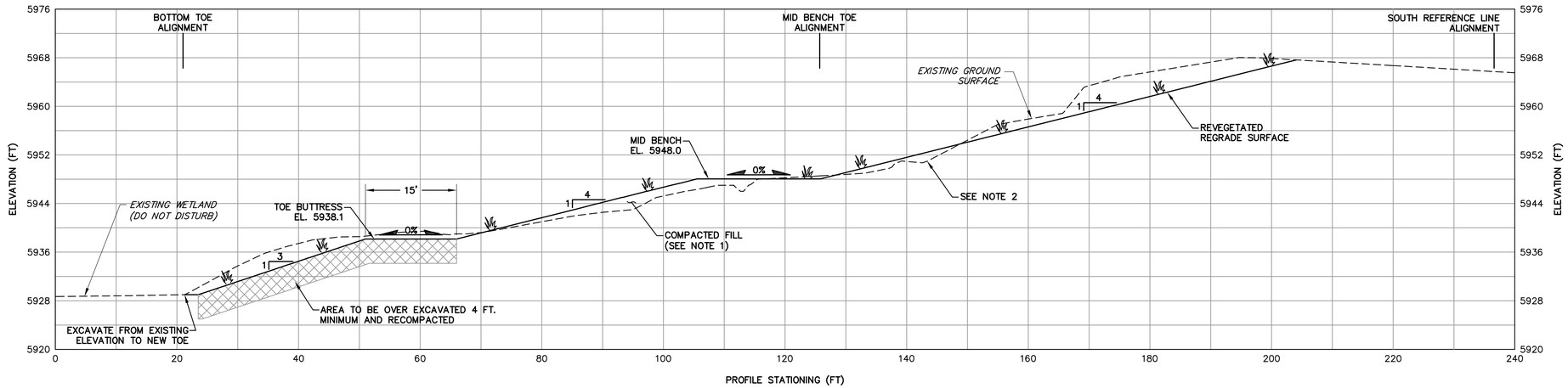
REFERENCE

APPROVALS		
DRAWN BY: T. BOEHLER	DATE: -/-/07	
ENGINEER: J. KIENHOLZ	-/-/07	
PROJECT ENGINEER:		
APPROVED BY: M. MADRIL	-/-/07	
PROJECT MANAGER: L. KAISER	-/-/07	
DOE CONCURRENCE: (SEE RECORD)	-/-/07	

BUILDING AREA 991 SLUMP REPAIR

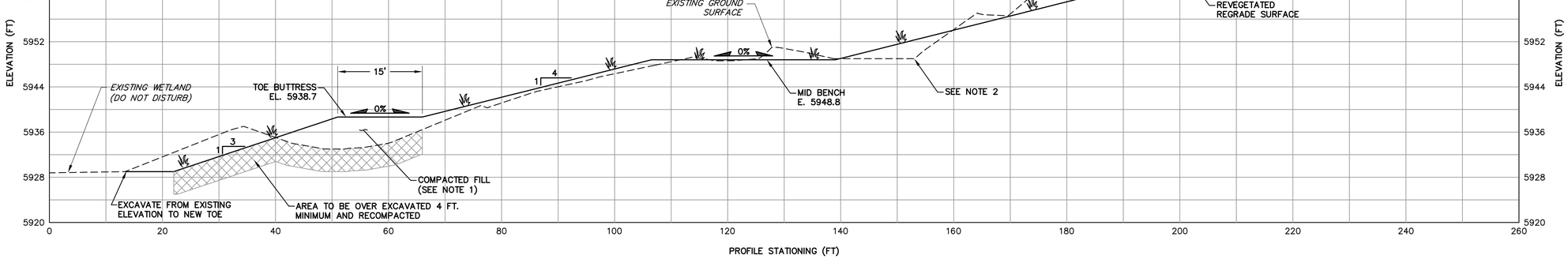
SECTIONS E AND F

PROJECT NO. LTS-111-0056-13-001D
SHT. 6 OF 8
DRAWING NO. S03438-R00-C004-D+



H 3|7 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'



G 3|7 SECTION

SCALE: HORIZ: 1" = 10'
VERT: 1" = 10'

NOTE:

1) IN FILL AREAS, SCARIFY A MINIMUM 12-INCH DEPTH, WORK THE SCARIFIED MATERIAL TO A UNIFORM CONDITION AND MOISTURE CONDITION, AND COMPACT WITH A MINIMUM OF THREE PASSES WITH SHEEP'S FOOT COMPACTION EQUIPMENT.

2) EXCAVATE AND FILL LARGE SUBSIDENCE CRACKS PRIOR TO FILL PLACEMENT.

3) SPREAD FILL IN 12-INCH LIFTS (MAXIMUM).

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

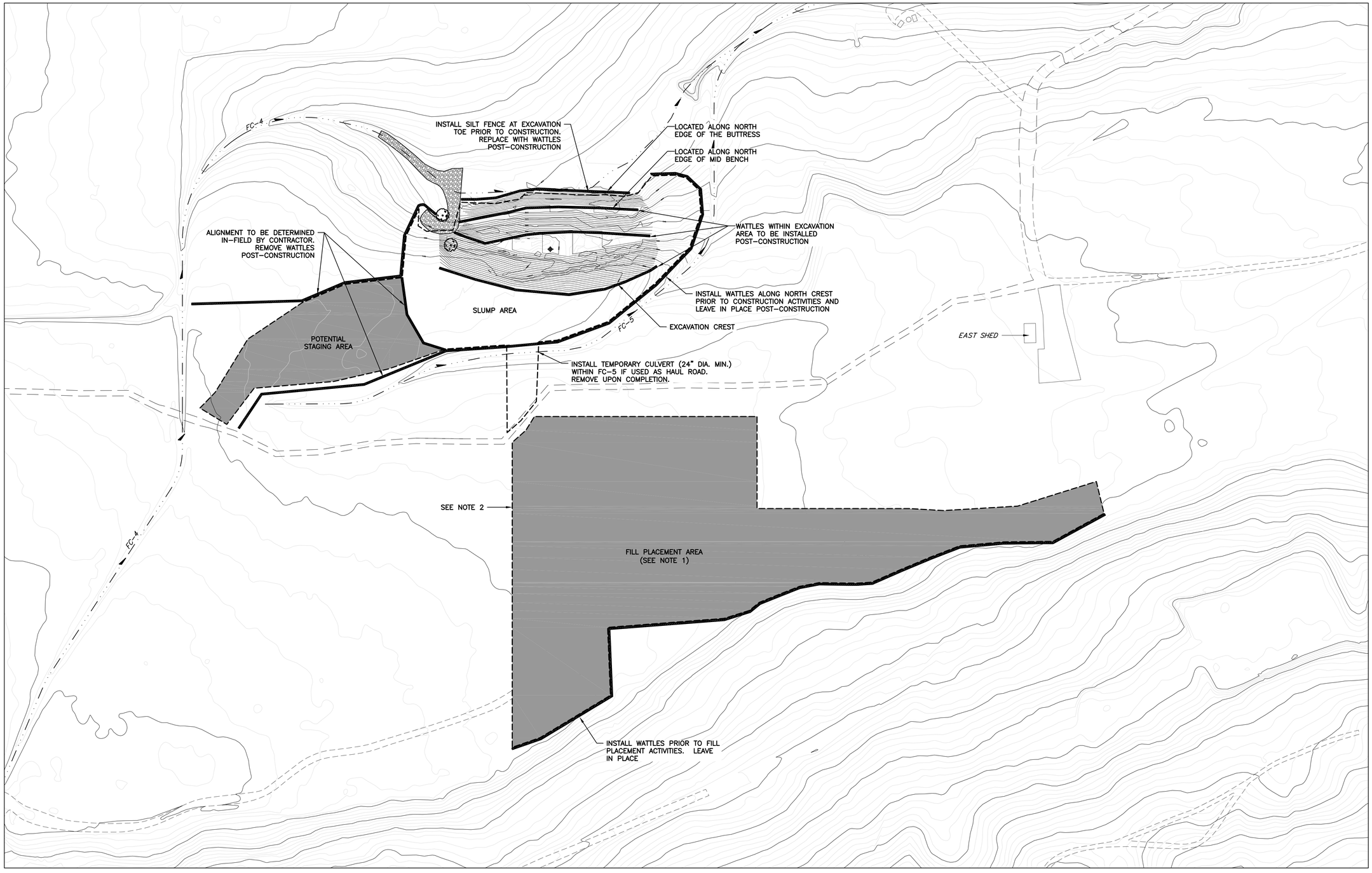
APPROVALS

	DATE
DRAWN BY: T. BOEHLER	-/-/07
ENGINEER: J. KIENHOLZ	-/-/07
PROJECT ENGINEER:	
APPROVED BY: M. MADRIL	-/-/07
PROJECT MANAGER: L. KAISER	-/-/07
DOE CONCURRENCE: (SEE RECORD)	-/-/07

BUILDING AREA 991 SLUMP REPAIR

SECTIONS G AND H

PROJECT NO. LTS-111-0056-13-001D
SHT. 7 OF 8
DRAWING NO. S03439-R00-C005-D+



NOTE:

1) SPREAD FILL MATERIAL GENERATED FROM AREA 991 EXCAVATION IN ONE, SIX-INCH THICK LAYER AND REVEGETATE. ACTUAL AREA MAY VARY DEPENDING ON FILL GENERATED FROM EXCAVATION.

2) CONTRACTOR TO STAKE PERIMETER OF FILL PLACEMENT AREA PRIOR TO CONSTRUCTION ACTIVITIES.

3) INSTALL WATTLES AND SILT FENCE AS DIRECTED BY THE CONTRACTOR AND PER THE EROSION CONTROL PLAN FOR ROCKY FLATS CENTRAL OPERABLE UNIT DATED 4/26/07.

N

GRADING PLAN

SCALE IN FEET

100 50 0 100 200 300

REVISION NO.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	PROJECT A/E	APPROVAL

U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO

Work Performed by
S.M. Stoller Corporation
Under DOE Contract
No. DE-AC01-02GJ79491

PROJECT LOCATION
ROCKY FLATS SITE
GOLDEN, COLORADO

REFERENCE

APPROVALS		
DRAWN BY: T. BOEHLER	DATE: -/-/07	
ENGINEER: J. KIENHOLZ	-/-/07	
PROJECT ENGINEER		
APPROVED BY: M. MADRIL	-/-/07	
PROJECT MANAGER: L. KAISER	-/-/07	
DOE CONCURRENCE: (SEE RECORD)	-/-/07	

BUILDING AREA 991 SLUMP REPAIR

EROSION CONTROL PLAN

PROJECT NO. LTS-111-0056-13-001D
SHT. 8 OF 8
DRAWING NO. S03640-R00-C006-D+

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Evaluation of Elevated Nitrate in Ground Water Samples from AOC Well B206989

Contact Record Approval Date: October 12, 2007

Site Contact(s) / Affiliation(s):
Scott Surovchak / DOE-LM, John Boylan / S.M. Stoller, Linda Kaiser / S. M. Stoller, Rick DiSalvo / S. M. Stoller

Regulatory Contact(s) / Affiliation(s):
Carl Spreng / CDPHE

Discussion:
See attached document for discussion.

Resolution:
See attached document for resolution.

Contact Record Prepared by: John Boylan, S.M. Stoller

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
File

Evaluation of Elevated Nitrate in Ground Water Samples from AOC Well B206989

Per the RFLMA, DOE is required to notify the agencies of AOC wells with reportable conditions. A reportable condition for nitrate at well B206989 was declared in the last week of August 2007. Notification of the CDPHE was made in a meeting at the Rocky Flats office on August 30, 2007. This document provides the RFLMA-required plan and schedule for an evaluation to address this specific occurrence.

Background

Well B206989 was classified as a Sentinel well until the signing of the RFLMA on March 14, 2007, at which point it was reclassified as an AOC well. This new classification has reportable requirements associated. Reportable conditions are triggered when the concentration of an analyte exceeds the corresponding RFLMA Table 1 level or uranium threshold for two consecutive routinely-collected samples (i.e., two consecutive semiannual samples).

Well B206989 is located at the toe of the Landfill Pond dam. It is screened in weathered bedrock. Analytical data from this well have often appeared anomalous; for example, concentrations of nitrate + nitrite as N (herein termed nitrate) and uranium typically exceed those in samples from other nearby wells, indicating these results are not indicative of a plume of contamination. (This document addresses only nitrate, as the uranium concentrations have not exceeded the 120 ug/L threshold since the RFLMA was signed.) The anomalous water quality does not appear to be associated with the landfill wastes.

The sample collected from this well in June 2007 contained 27 mg/L nitrate, exceeding the applicable Table 1 standard of 10 mg/L. (The 100 mg/L Temporary Modification does not apply to wells in the No Name Gulch drainage.)

Although this was only the first sample collected under its new AOC classification, because the result was consistent with previous data the DOE decided to consider the result a reportable condition. This document proposes a response to that condition. The response focuses on a statistical evaluation of the analytical data for nitrate from this well, with the results of that evaluation driving any subsequent action that may be necessary.

Data Summary

Table 1 below summarizes nitrate data from well B206989 collected since 2000. The 10 mg/L standard and the 100 mg/L Temporary Modification for Segment 5 are also included for reference. As shown, the June 2007 results are generally consistent with previous results, only one of which is less than the 10 mg/L standard.

Figure 1 presents these data in a time-series plot, and includes a best-fit regression trend line. The r^2 value, 0.1266, suggests the fit is not particularly good. This is to be expected given the variability of the data. Even so, the visually apparent overall decrease is confirmed.

Figure 2 shows the same data, but includes a trend calculated using the Seasonal-Kendall trending method. Once again, a decreasing trend is evident. But again, the statistical confidence is not high; as shown, the trend does not meet an 80% level of significance.

Recommended Response

Three different approaches – one subjective (visual) and two objective (regression and Seasonal-Kendall trend calculation) – suggest concentrations of nitrate in ground water samples from well B206989 are decreasing. Therefore, it does not appear likely that the nitrate concentrations reported for ground water in this well will impact surface water quality at the Point of Compliance (POC).

Installing a replacement well has been discussed in the past due to the anomalous results generated by samples from well B206989. However, given the apparent decreasing trend in nitrate, well replacement at this time would probably represent an unnecessary cost and should be postponed unless and until a potential negative impact to surface water quality is indicated (i.e., the concentration trend is increasing) and downstream surface water exceeds the nitrate standard at the POC.

The following evaluation strategy is recommended:

1. Well B206989 will continue to be monitored semiannually as an AOC well, in accordance with the RFLMA except as described below.
2. Nitrate data will continue to be evaluated for trend. Exceedance of the nitrate standard will not trigger additional reportable conditions, as the evaluation will still be ongoing.
3. If and when a decreasing Seasonal-Kendall trend in nitrate concentrations with a level of significance of 80% is reached, the CDPHE shall be notified and this formal evaluation shall conclude.
4. Alternatively, if an increasing Seasonal-Kendall trend in nitrate concentrations is indicated, even at less than 80% significance, consultation with the CDPHE shall commence on the next phase of the evaluation, which shall incorporate all additional information then available.
5. If the level of significance of the nitrate trend still has not reached 80% following receipt of data from the last routinely-collected sample in calendar year 2011, and a subset of the nitrate results from the most recent 8 routine semiannual samples also lacks this level of significance, the DOE and CDPHE shall consult to determine whether an alternative to or modifications of this strategy are warranted based on all then-available data. (The date 2011 is arbitrarily selected to encompass the next CERCLA 5-year review period; the minimum number of samples required to calculate a Seasonal-Kendall trend is 8.)
6. Following conclusion of this evaluation via Step 3 above, if concentrations still frequently exceed the standard, the DOE and CDPHE shall discuss whether a unique definition of reportable conditions should be established for nitrate in well B206989.

Table 1. Concentrations of nitrate in ground water samples from well B206989 since January 2000.

Date Sampled	Nitrate Concentration, mg/L
1/19/2000	40
6/15/2000	39
11/30/2000	44
2/28/2001	60
7/17/2001	33.3
12/4/2001	31.4
2/11/2002	69.4
7/18/2002	40.3
11/6/2002	19
2/12/2003	54.1
3/25/2003	48
1/7/2004	34
6/3/2004	41
8/18/2004	9.55
12/6/2004	37.5
5/26/2005	33.1
7/28/2005	28
11/9/2005	34.6
4/26/2006	45
10/10/2006	35
6/26/2007	27

NOTE: Results reported as nitrate + nitrite as N. Field duplicates, equipment rinsates, and special No Purge sampling method-evaluation samples omitted.

Figure 1. Time-series plot of analytical data from Table 1 together with calculated regression best-fit trend and corresponding R^2 value.

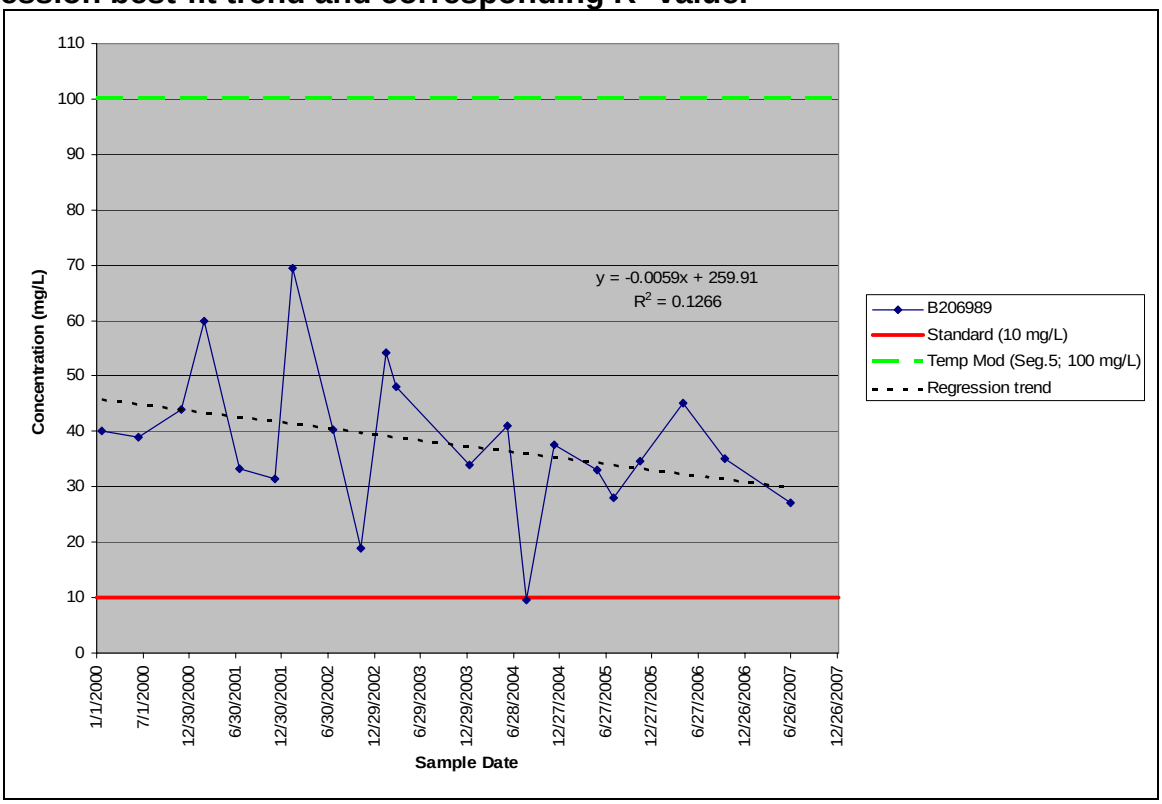
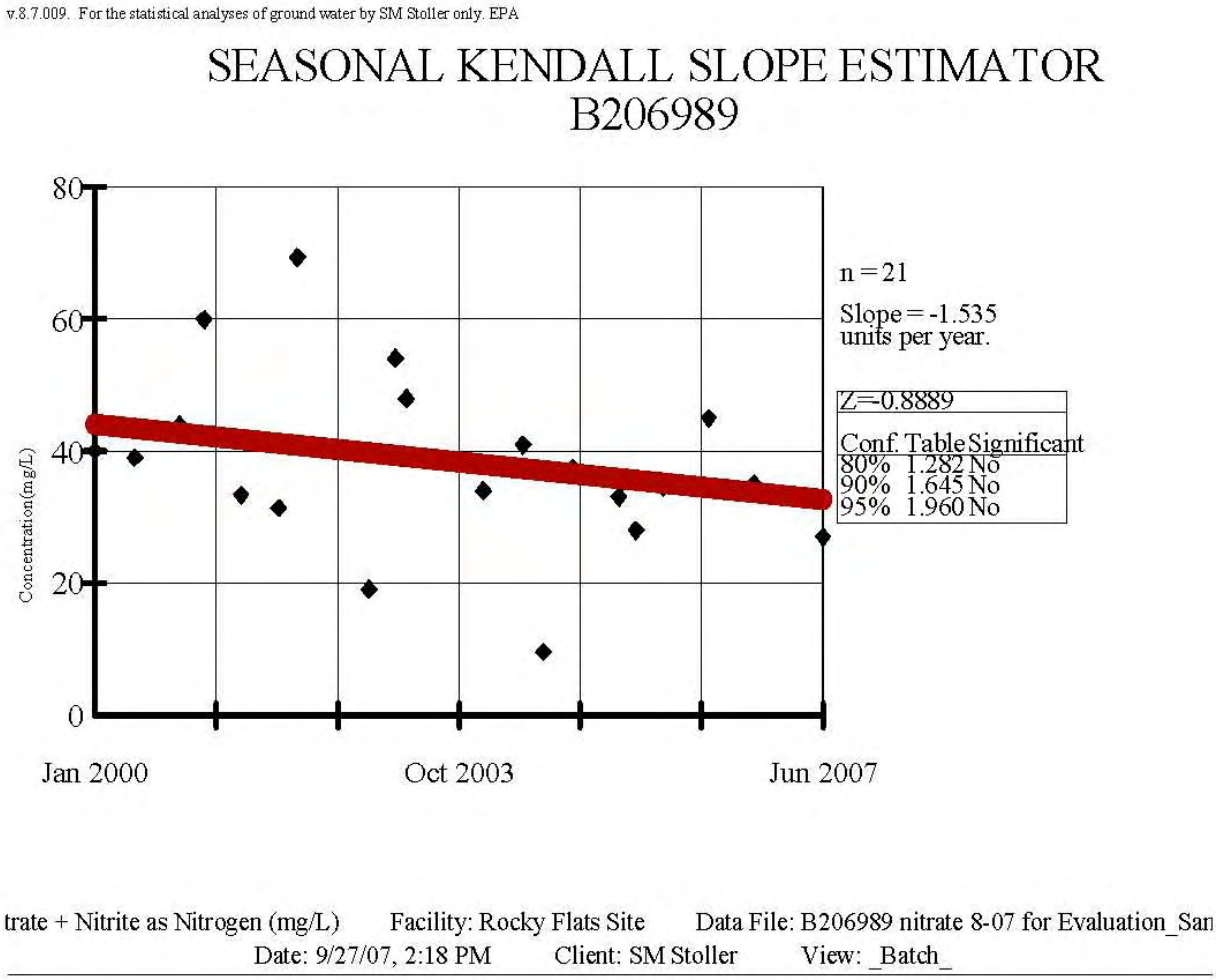


Figure 2. Plot of analytical data from Table 1 together with calculated Seasonal-Kendall trend.



ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Replacement of Monitoring Well 45605 (B991 Slump)

Contact Record Approval Date: November 29, 2007

Site Contact(s) / Affiliation(s): Scott Surovchak / DOE; John Boylan / Stoller; Linda Kaiser / Stoller

Regulatory Contact(s) / Affiliation(s): Carl Spreng / CDPHE

Discussion:
Monitoring well 45605 was installed as a Sentinel well to monitor the disrupted French drain that fed surface water location SW056 (prior to closure). To address the low concentrations of VOCs in water discharged by the drain, this outlet was removed during Site closure and the drain was disrupted. (See *Closeout Report for Surface Water Station SW056 Outfall*, Nov. 2005, for more information.) Following this, the constructed hillside in which the French drain was installed became unstable and a slump developed. The slump eventually damaged the monitoring well, reduced its useful lifetime, and presented health and safety concerns for personnel working in the area. In October and November 2007 well 45605 was abandoned and this slumping hillside was regraded.

Resolution:
Now that the regrade has been completed, the replacement of well 45605 can proceed. The original well was installed in consultation with the regulators, and was situated approximately 10 ft. north (downgradient) of the buried French drain and 10 ft. west (upgradient) of the disrupted eastern end of the drain. This location provided access to ground water collected by the remnants of the drain. The replacement well will be installed approximately 10 ft. west of the previous well location (so as to be beyond the area of disturbance posed by the original borehole, but still monitor collected ground water), using survey coordinates to determine this location. The diameter of the replacement well will be between 0.75 inch to 2 inches. The design of the well will approximate that of well 45605, taking into account the regrading that has been performed and limitations of well materials (i.e., standard lengths), and the need to satisfy the original DQOs. The well will penetrate at least a few inches into the weathered bedrock and monitor what may be reasonably expected to represent the saturated surficial materials (predominantly artificial fill), as did the original well. The method used to install the well will be at the Site's discretion, and may range from direct-push methods (e.g., Geoprobe™) to sonic, hollow-stem auger, or other drill rig; any method that uses no drilling fluids or other potential contamination agents to install the well will provide the necessary borehole information and an appropriate monitoring well.

The well will be identified as either 45607 or 45608, depending on whether it is installed in calendar year 2007 or 2008. The exact timing of this installation is at the Site's discretion, but will be completed sufficiently in advance of the end of the second calendar quarter of 2008 to allow well development and the collection of ground water samples representing that quarter. The monitoring classification, analytical suite, and all other DQOs and requirements previously met by well 45605 shall be transferred to the replacement well.

Contact Record Prepared by: **John Boylan**

Distribution:
Carl Spreng, CDPHE
Scott Surovchak, DOE
Linda Kaiser, Stoller
Rocky Flats Contact Record
File

ROCKY FLATS SITE
REGULATORY CONTACT RECORD

Purpose: Changes to Present Landfill Inspection and Monitoring Frequencies and Modification of the PLF Monitoring and Maintenance Plan.

Contact Record Approval Date: December 21, 2007

Site Contact(s) / Affiliation(s): Scott Surovchak, DOE, Linda Kaiser, S.M. Stoller, Jeremiah McLaughlin, S.M. Stoller, George Squibb, S.M. Stoller, John Boylan, S.M. Stoller, Jody Nelson, S.M. Stoller, Rick DiSalvo, S.M. Stoller

Regulatory Contact(s) / Affiliation(s): Carl Spreng / CDPHE

Discussion: The Present Landfill Monitoring and Maintenance Plan and Post-Closure Plan, May 2006, (PLF M&M Plan) includes certain inspection and monitoring requirements that may be changed or phased out over time as conditions warrant, in accordance with the PLF M&M Plan. Also, the PLF M&M Plan was written before the Corrective Action Decision/Record of Decision (CAD/ROD) was approved in September 2006 and the Rocky Flats Legacy Management Agreement (RFLMA) to implement the CAD/ROD was drafted and became effective in March, 2007. The PLF M&M Plan is incorporated by reference as an enforceable requirement of RFLMA (See RFLMA Attachment 2, section 5.3.1, and Tables 1-3). RFLMA terminated and supersedes the Rocky Flats Cleanup Agreement (RFCA) and the PLF M&M Plan references RFCA in certain sections.

This Contact Record is to document changes in inspection frequencies, completion of certain monitoring requirements that now may be phased out, clarification of vegetation inspection schedules and completion criteria in accordance with the PLF M&M Plan. It is also to document agreement between DOE and CDPHE to revise the M&M Plan so that the M&M Plan text recognizes the implementation of the remedy under RFLMA.

Pursuant to RFLMA paragraph 66, DOE and CDPHE do not consider these items to constitute a significant change from existing requirements of RFLMA, and this Contact Record shall be used to provide public notice of modifications to the PLF M&M Plan. Also, CDPHE may approve modifications to RFLMA Attachments pursuant to RFLMA paragraph 65. (Note that the Original Landfill (OLF) M&M Plan will also require updating revisions, since it was also approved prior to RFLMA. DOE will consult with CDPHE on changes to the OLF M&M Plan after the ongoing investigation of seeps and slumping on the OLF soil cover is completed.)

The groundwater and surface water monitoring plans in the PLF M&M Plan reference RFCA and the RFCA Integrated Monitoring Plan. These have been superseded by RFLMA, so the PLF M&M Plan revision will reflect the RFLMA requirements, which include the following RFLMA Attachment tables and figures:

- Table 1, Surface Water Standards
- Table 2, Water Monitoring Locations and Sampling Criteria
- Table 3, Present and Original Landfill Inspection and Maintenance Requirements
- Figure 10, RCRA Wells
- Figure 11, Groundwater Treatment Systems

Inspection Frequencies: Table 1, below, shows the PLF inspection frequency requirements as summarized in RFLMA Attachment 2, Table 3 that are being changed, and the new frequencies. Note that the frequencies for stability and erosion control inspections were evaluated in the recently completed CERCLA periodic review, as described in the *Second Five-Year Review Report for the Rocky Flats Site*, September 2007. The next CERCLA five-year review will be conducted in 2012.

Table 1

RFLMA Inspection and Maintenance Requirements – derived from RFLMA Attachment 2, Table 3		**Result of consultation and 5-Year review**
Requirement and Description of Activity	**Frequency/Status**	**New Frequency**
Final cover inspection and monitoring ✓ inspect/monitor slope stability, soil cover ✓ visually inspect surface of landfill cover for cracks, depressions, heaving, and sinkholes	monthly for first year/completed	quarterly – evaluate frequency in subsequent CERCLA periodic review
Final cover inspection and monitoring ✓ monitor settlement monuments and side slope stability monuments	quarterly for first year/completed	annually – evaluate frequency in subsequent CERCLA periodic review
Final cover inspection and monitoring ✓ vegetation monitoring	quarterly for first year/completed	monthly for noxious weeds during growing season (April-September) and annually for vegetation until PLF M&M Plan quantitative grassland success criteria is met.
Final cover inspection and monitoring ✓ additional weather-related inspections after storm event of one inch or more of rain in a 24-hour period or significant melt of 10-inch or more snowstorm	after event (no time specified)/ongoing	within 2 days after event (This is consistent with RFLMA Attachment 2, Table 3 for the OLF.)
Inspection and monitoring of stormwater management system and erosion control features ✓ visually inspect stormwater management structures (channels/lining, culverts, and outfalls) ✓ visually inspect erosion control features (perimeter channels and natural drainages); ✓ visually inspect seep treatment system	monthly for first year/completed	quarterly – evaluate frequency in subsequent CERCLA periodic review
Inspection and monitoring of stormwater	after event (no time	within 2 days after event

RFLMA Inspection and Maintenance Requirements – derived from RFLMA Attachment 2, Table 3		Result of consultation and 5-Year review
Requirement and Description of Activity	**Frequency/Status**	**New Frequency**
management system and erosion control features ✓ additional weather-related inspections after storm event of one inch or more of rain in a 24-hour period or significant melt of 10-inch or more snowstorm	specified)/ongoing	(This is consistent with RFLMA Attachment 2, Table 3 for the OLF.)

Water Monitoring Sampling Criteria: Two PLF water monitoring locations specified in the PLF M&M Plan, the Groundwater Interceptor System (GWIS) influent to the PLF Treatment System (PLFTS), are required by the PLF M&M Plan to be sampled for one year, and the results evaluated by the RFCA Parties. These two locations, identified as GWISINFNORTH and GWISINFSOUTH in RFLMA Attachment 2, Table 2 have been sampled quarterly for the last two years. These locations are included in the evaluations required in RFLMA Attachment 2, Figure11, and monitoring may be discontinued based on the consultative process. The results have been evaluated by DOE and CDPHE and the data do not present any reason to continue quarterly sampling. Thus, the frequency for sampling in RFLMA Attachment 2, Table 2 will be changed to "discontinued". A footnote will be added to indicate these sampling locations may be used for investigation purposes.

In addition, the PLF M&M Plan requires sampling the PLFTS effluent for metals, plutonium, isotopic uranium, volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). RFLMA Attachment 2, Table 2 does not include sampling for plutonium. To resolve differences in the PLF M&M Plan and RFLMA analyte lists, the PLF M&M Plan will be revised to defer to the analytes in RFLMA.

Table 2, below, shows the PLF water monitoring requirements as summarized in RFLMA Attachment 2, Table 2, that are being changed and the new requirement.

Table 2

RFLMA water Monitoring Locations and Sampling Criteria Requirements – derived from RFLMA Attachment 2, Table 2		Result of consultation
Requirement and Description of Activity	**Frequency/Status**	**New Frequency**
Present Landfill Treatment System ✓ GWISINFNORTH ✓ GWISINFSOUTH	quarterly for VOCs, Isotopic U, metals, nitrate	discontinue – add footnote indicating may be used for investigation purposes

Other Criteria: Surface water standards may change from time to time, based upon regulatory actions, and RFLMA Attachment 2, Table 1 will be updated to reflect changes from time to time. Since the PLF M&M Plan will be changed to defer to the RFLMA analyte list, no changes to the PLF M&M Plan will be required if surface water standards change in the future. Currently, there are no changes needed for RFLMA Attachment 2, Table 1.

Resolution: The PLF inspection and monitoring frequencies shall be implemented as described in Table 1 and 2 of this Contact Record, above, and RFLMA Attachment 2, Tables 2 and 3 will be modified accordingly. The PLF M&M Plan will be modified as described herein.

Pending the submittal of the modifications for approval, Carl Spreng, CDPHE, approved the immediate implementation of the changed inspection frequencies and water monitoring sampling criteria as described in this Contact Record.

DOE anticipates the modifications to RFLMA Attachment 2, Tables 2 and 3, and the modifications to the PLF M&M Plan will be submitted to CDPHE for approval by January 1, 2008. There are no changes needed for RFLMA Attachment 2 Figures 10 and 11.

Closeout of Contact Record: The status of actions or activities documented by RFLMA Contact Records will be documented by DOE from time to time, and included in RFLMA quarterly and/or annual surveillance and maintenance reports for tracking purposes. This Contact Record will be closed when:

- Modified RFLMA Attachment 2, Tables 2 and 3 approved by CDPHE and posted to the DOE website. Notification of the availability of the modification made by DOE in accordance with RFLMA Appendix 2, *Public Involvement Plan*.
- Modified PLF M&M Plan approved by CDPHE and posted to the DOE website. Notification of the availability of the modification made by DOE in accordance with RFLMA Appendix 2, *Public Involvement Plan.*

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